

PROGRAM

12th European Nitrogen Fixation Conference, 2016

25th August (Thursday)

10:00-17:00 Registration and poster installation

Opening - Helia Hall

- 17:00-17:30 **Welcoming address**
Éva Kondorosi – Chair of the Local Organizing Committee
Ádám Török - Secretary General of the Hungarian Academy of Sciences
Jens Stougaard - Chair of the European Advisory Board of ENFC
- 17:30-17:45 **Introduction to the Adam Kondorosi Award**
Sierd Cloetingh - President of the Academia Europaea
- 17:45-17:50 **Presentation of the Adam Kondorosi Awardee**
Sierd Cloetingh - President of the Academia Europaea
- 17:50-18:20 **Lecture of the Adam Kondorosi Awardee**
- 18:20-19:00 **EMBO Lecture**
Jens Stougaard
Gatekeepers of Symbiotic Nitrogen Fixation in Legumes
- 19:00-21:00 **Welcome reception**
At the restaurant of the hotel (Jupiter Restaurant)

26th August (Friday)

Plenary lectures – Helia Hall

Chair: Gabriella Endre

1. Signal perception and transduction

- 09:00-09:30 **Myriam Charpentier**
Nuclear Calcium Signalling in Symbioses
- 09:30-10:00 **Masayosi Kawaguchi**
Regulatory System Evolution of Symbiotic Organ Development

2. Biochemistry of key processes and enzymes

10:00-10:30 **Luis M. Rubio**
Expression and Maturation of Nitrogenase Components in Mitochondria

10:30-11:00 **Coffee break**

Plenary lectures – Helia Hall

Chair: Éva Kondorosi

3. Infection and invasion

11:00-11:30 **Jeremy Murray**
Connecting the Dots: Gene Regulatory Networks in Rhizobial Infection

11:30-12:00 **Makoto Hayashi**
Regulation of Infection in Root Epidermis and Cortex for Nodulation

4. Interplay of Symbiotic Interactions

12:00-12:30 **Martin Parniske**
A Novel Component of the CCaMK/CYCLOPS Complex Regulates Root Nodule Symbiosis

12:30-14:00 **Lunch**

Parallel session 1 – Helia Hall

Signal perception and transduction

Chairs: Simona Radutoiu, Pascal Gamas

14:00 **Florian Frugier**
DELLA-mediated Gibberellin Signaling is a Direct regulator of Nod Factor Signaling and Rhizobial Infection

14:15 **Dugald Reid**
*Identification of Genes Controlling Cytokinin Homeostasis during Nodule Development in *Lotus japonicus**

14:30 **Xia Li**
miRNAs Regulate Nodule Number in Soybean

14:45 **Katharina Markmann**
A micro RNA Acts as a Signal in Systemic Control of Nodulation Symbiosis

15:00 – 15:40 **Lightning Talks (short oral presentations)**

Jean-Francois Arrighi

*From the Genetic Map to the Genome Assembly of the Nod Factor-Independent *Aeschynomene evenia* to Shed Light on the Evolution of Nodulation*

Anton Sulima

*The Pea (*Pisum sativum* L.) Receptor-like Kinase Gene *LykX*, the most Prominent Candidate for *Sym2*, is Required for Successful Penetration of *Rhizobia* into the Root Hair*

Eiichi Murakami

Lotus-Rhizobium Symbiosis is Facilitated by the Epidermal Nod Factor Receptor

Katja Katzer

Identification of a Novel Component of the CCaMK/CYCLOPS Complex

Carole Laffont

*KNAT3/4/5-like KNOX Transcription Factors Regulate Symbiotic Nodule Organ Development in *Medicago truncatula* Potentially through the MtEFD/MtRR4 Cytokinin-related Regulatory Module*

Michael Djordjevic

*Nodule and Lateral Root Development are Mediated by Independent Pathways Downstream of the MtCEP1 Peptide / CRA2 Receptor in *Medicago truncatula**

Parallel session 2 – Panorama Room

Biochemistry of key processes and enzymes

Chairs: Ray Dixon, Christian Staehelin

14:00 **Yi-Ping Wang**

Genetic Requirements for Biosynthesis and Activity of FeFe Nitrogenase

14:15 **Nico Nouwen**

*The Role of Rhizobial (*Nifv*) and Plant (*FEN1*) Homocitrate Synthases in Symbiotic Nitrogen Fixation*

14:30 **Rui Maria Lima**

The Role of the Signal Peptide Peptidase in Nodule Development and Symbiosis

14:45 **José Jiménez-Zurdo**

**Sinorhizobium meliloti* YbeY: A Novel Endoribonuclease Involved in RNA-Mediated Gene Silencing*

15:00 – 15:40 *Lightning Talks (short oral presentations)*

Kira Gysel

Comparative Biochemical Studies of Lotus japonicus LysM Receptor like Kinases

Carmen Sanchez-Canizares

Regulation of Bacterial Metabolism by the Phosphotransferase System (PTSNtr)

Christian Staehelin

The Nod Factor Hydrolase of Medicago truncatula: An Example of Symbiosis-Related Neofunctionalization

Michael Göttfert

From Symbiosis to Biotechnology: The Metal Ion-Inducible Auto-cleavage (MILA) Domain

Laure Decamps

Heterologous Expression of Enzymes of the Nitrogenase Pathway

Daniel Hsieh

Exploring the Function of the Inorganic Phosphate Transporter (PiT)-associated Protein in Sinorhizobium meliloti

15:40-16:20 **Coffee break**

Parallel session 3 – Helia Hall

Infection and invasion

Chairs: Thomas Ott, Krzysztof Szczygłowski

16:20 **Macarena Marin**

Diversity of Nodulation and Infection in Lotus × Rhizobium Combinations Revealed Dynamic Evolutionary Processes

16:35 **Fernando Sorroche**

Autoregulation of Infection in the Sinorhizobium meliloti-medicago Symbiosis

16:50 **Maitrayee DasGupta**

Role of SYMbiosis Receptor Kinase (SYMRK) in Synchronising Epidermal Cortical Responses in Root Nodule Symbiosis

17:05 **David Chiasson**

The Unique Brush Allele Reveals Redundancy in a Cluster of Channel Proteins during Root Development and Infection by Rhizobia

17:20 – 18:00 **Lightning Talks (short oral presentations)**

Andreas Niebel

NF-Y TFs as Key Regulators of Nodule Development and Infection

Fang Xie

SCARN a Novel Class of SCAR Protein that is Required for Root-Hair Infection during Legume Nodulation

Fernanda de Carvalho-Niebel

Host Cell Reprogramming for Rhizobial Root Infection

Yasuyuki Kawaharada

The ERF Required for Nodulation1 (ERN1) Transcription Factor is Required for Root Nodule Infection in Lotus japonicus

Marion Cerri

Regulation of Lotus japonicus ERN1 by the CCaMK/CYCLOPS Complex Constitutes a Central Step in the Transcription Factor Network Controlling Bacterial Accommodation

Annet Westhoek

Policing the Gate: Can Pea Plants Stop Rhizobial Cheats from Entering?

Thomas Ott

Molecular Control of Receptor Mobility Shifts during Rhizobial Infection

Parallel session 4 – Panorama Room

Interplay of nitrogen-fixing and mycorrhizal symbioses

Chairs: *Allan Downie, Caroline Gutjahr*

16:20 **Rene Geurts**

Parasponia and Trema Comparative Genomics to Provide Insight in an Evolutionary Trajectory towards Rhizobium Symbiosis

16:35 **Oksana Shtark**

Arbuscular Mycorrhiza Development in Pea Mutants Impaired in Early Nodulation Genes including Putative Orthologs of NSP1 and NSP2

16:50 **Caroline Gutjahr**

A CCaMK-CYCLOPS-DELLA Complex Regulated Transcription in Arbuscular Mycorrhiza

17:05 **Juan Imperial**

Differential Host-Selection Behaviour in the Rhizobium leguminosarum bv. viciae – Legume Symbiosis

17:20 – 18:00 **Lightning Talks (short oral presentations)**

Rosa Elena Andrade Aguirre

Do You Want to Join the Complex? Towards the Identification of New CCaMK/CYCLOPS Interactors

Olga Kulaeva

*The process of Bacteroid Differentiation in Pea (*Pisum sativum* L.) is Controlled by Symbiotic Genes that Regulate the Expression of the NCR Gene Family*

Anna Zdyb

Expression of a Rhizobial Efflux System and its Associated Transcriptional Regulator during Nodule Development

Marcela Mendoza-Suárez

Rhizobial Competition: Getting to the Root of the Problem

Anna Igolkina

Plant as an Evolutionary Driver of Symbiotic Microbiome

Kritarth Seth

Effect of Phosphate Solubilization on Nitrogen Fixation in Clover

Katrin Petersen

*Quorum Sensing Controls Phenotypic Heterogeneous Expression of the Autoinducer Synthase Gene *traI* via Copy Number Control of *pNGR234a* in the Plant Symbiont *S. fredii* NGR234*

18:00-19:30 **Poster session 1- odd numbers**

27th August (Saturday)

Plenary lectures – Helia Hall

Chair: Jose Palacios

5A. Functioning of the N-fixing symbioses /bacteria/

09:00-09:30 **Philip Poole**

Metabolic Transitions of Rhizobia

09:30-10:00 **Anke Becker**

Plasticity of α -rhizobial Genomes: A Cell Biological Perspective

6. Biological nitrogen fixation in non-legume environments

10:00-10:30 **Rachel Foster**

Diatom-N₂ Fixing Symbioses: Making the Most in a Nutrient Deplete Open Ocean

10:30-11:00 **Coffee break**

Plenary lectures – Helia Hall

Chair: Péter Kaló

5B. Functioning of the N-fixing symbioses /plants/

- 11:00-11:30 **Michael Udvardi**
Deconstructing Symbiosis: Loss-of-function Mutations Reveal Key Genes for Symbiotic Nitrogen Fixation in Medicago truncatula
- 11:30-12:00 **Jean-Michel Ané**
A Band of Misfits: Role of Unexpected Proteins in the Plant Symbiotic Signaling Pathway

7. Free-living nitrogen fixation

- 12:00-12:30 **Enrique Flores**
Intercellular Communication in the Diazotrophic Filament of Heterocyst-forming Cyanobacteria
- 12:30-14:00 **Lunch**

Parallel session 5A – Helia Hall

Functioning of the nitrogen-fixing symbioses /bacteria/

Chairs: Sharon Long, Emanuele Biondi

- 14:00 **Allan Downie**
A Hypothesis for the Acquisition and Evolution of Peptides Controlling Differentiation of Nitrogen Fixing Rhizobia in Legume Nodules
- 14:15 **Emanuele Biondi**
Bacterial Cell Cycle and Bacteroid Differentiation are linked in Sinorhizobium meliloti
- 14:30 **George diCenzo**
Development of a Permissive Platform for Identification of the Minimal Rhizobial Symbiotic Genome and Forward Genetic Analyses
- 14:45 **Etelka Kovács**
Characterization of Sinorhizobium meliloti Mutants with Increased Resistance towards NCR Peptides

15:00 – 15:40 **Lightning Talks (short oral presentations)**

Marta Robledo

sRNA-mediated Regulation of the Cell Cycle Master Regulator CtrA in Sinorhizobium meliloti

Ken-ichi Yoshida

Inactivation of PhaR Involved in Poly-beta-hydroxybutyrate Accumulation in Bradyrhizobium japonicum USDA110 and its Pleiotropic Effects

Rachel Wheatley

Insertion Sequencing in Rhizobium leguminosarum bv. viciae 3841

Chang Fu Tian

MucR is Required for Transcriptional Activation of Conserved Ion Transporters to Support Nitrogen Fixation of Sinorhizobium fredii in Soybean Nodules

Kathrin Wippel

Stringent Response-Mediated Transcriptional Changes in the Medicago-Sinorhizobium Root Nodule Symbiosis

Parallel session 6 – Panorama Room

Biological nitrogen fixation in non-legume environments

Chairs: Barbara Reinhold-Hurek, Adriana Hermerly

14:00 **Adriana Hermerly**

Endophytic Diazotrophic Bacteria: The Plant Understanding of this Beneficial Association

14:15 **Barbara Reinhold-Hurek**

A Glance at the Endophytic Lifestyle of Azorarcus sp. BH72: Factors Contributing to Endophytic Competence

14:30 **Barney Geddes**

Discovery of a Novel Rhizopine Synthesis Pathway Paves the Way for Synthetic Symbioses and Nitrogen Fixing Cereal Crops

15:00 – 15:40 **Lightning Talks (short oral presentations)**

Yongliang Yan

The RNA Chaperone Hfq is a Global Regulator in the Nitrogen-Fixing Pseudomonas stutzeri A1501

Vijay Singh

Identification and Functional Characterization of Genes Involved in Carbon Source Utilization in A. brasilense Sp7

Luciana Fernandes de Brito

Development of Tools for Transformation and Gene Expression in Paenibacillus Species and Complete Genome Sequence of Paenibacillus riograndensis SBR5

Lightning Talks (short oral presentations continued)

Christopher Waite

*The Regulation of Nitrogen Fixation and Assimilation in the Associative Diazotroph *Klebsiella oxytoca* M5a1*

Paramasivan Ponraj

Engineering a Biased Plant Rhizosphere to Establish Synthetic Symbioses in Cereals

Hassen Gherbi

Signaling Pathway in the Actinorhizal Root Nodule Symbiosis

Denis Warshan

Functional Genomics of Cyanobacteria in Symbiosis with Boreal Feather Mosses

Than Van Nguyen

Evolution of the Actinorhizal Symbiosis: Analysis of Bacterial Genomes of the Basal Cluster

15:40-16:20 **Coffee break**

Parallel session 5B – Helia Room

Functioning of the nitrogen-fixing symbioses /plants/

Chairs: Katharina Pawlowski, Jean-Michel Ané

16:20 **Pascal Gamas**

Epigenetic Regulation is Essential for the Development of Indeterminate Nodules

16:35 **Marianna Nagymihály**

*Dynamic Changes in Chromatin Structure during Endoreduplication Regulate Expression of Nodule-specific NCR Genes in *Medicago truncatula**

16:50 **Pascal Ratet**

**Medicago truncatula* Nodule-root (noot) Genes are Guards of the Symbiotic Organ Identity*

17:05 **Joachim Schulze**

Legume Shoots Induce a 24 h Nitrogenase-activity Rhythm under the Influence of Various Environmental Cues by a Common Molecular Mechanism

17:20 – 18:00 *Lightning Talks (short oral presentations)*

Gabriella Endre

The Role of U-box Ubiquitin Ligases during Plant-Microbe Interactions

Manuel Gonzalez-Guerrero

MtNramp1, MtZIP6, and MtCOPT1 are Respectively Responsible for Iron, Zinc, and Copper Uptake by Medicago truncatula Nodule Cells

Eric Boncompagni

Thioredoxin 1 s1 is Essential for Bacterial Terminal Differentiation in the Nitrogen-fixing Symbiosis in M. truncatula

Stig Andersen

Genetic Dissection of Nodulation Signalling using the LORE1 Insertion Mutant Collection

Jesus Montiel Gonzalez

The Profile of NCR Peptides Produced by the Legume Host Correlates with the Morphotype of the Bacteroids

Szilárd Kovács

Identification of Novel Symbiotic Plant Genes with the Help of M. truncatula Tnt1 Insertional Mutants

Katharina Schiessl

What Defines and Regulates Nodule Identity and Organogenesis?

Parallel session 7 – Panorama Room

Free-living nitrogen fixation

Chairs: Anton Hartmann, Rachel Foster

16:20 **Jorg Schumacher**

Synthetic Rebalancing of Nitrogen Fixation and Nitrogen Assimilation in Diazotrophs

16:35 **San-Feng Chen**

Using Synthetic Biology to Increase Nitrogenase Activity

16:50 **Corinne Appia-Ayme**

Regulation of Alternative Nitrogenase Expression by σ 54-dependent Activator Homologs in Azotobacter vinelandii

17:05 **Keisuke Inomura**

Macro-Molecular Model Indicates Multiple Oxygen Management Strategies by Crocosphaera Watsonii

17:20 – 18:00 **Lightning Talks (short oral presentations)**

Sofie Vonlanthen

Isolation and Characterization of Two New Nitrogen Fixing Unicellular Cyanobacteria from the Indian Ocean

Mónica Navarro Rodríguez

*Molybdenum Metabolism in *Azotobacter vinelandii**

Agneta Norén

*Studies of DraB, a Small Thioredoxin Like Protein in *Rhodospirillum rubrum* with an Unknown Function Encoded within the Dra Operon*

18:00-19:30 **Poster session 2 – even numbers**

28th August (Sunday)

Plenary lectures – Helia Hall

Chair: Attila Kereszt

8. On the interface of symbiotic/pathogenic interactions

09:00-09:30 **Gary Stacey**

Role of Plant Innate Immunity in the Legume, Nitrogen Fixing Symbiosis

09:30-10:00 **Péter Kaló**

*The *Medicago truncatula* NAD1 Gene is Essential for the Persistence of Bacteroids in Symbiotic Nodules*

9. Evolution, diversity and ecology

10:00-10:30 **Pierre-Marc Delaux**

Evolution of Symbioses: From Phylogeny to Intelligent Design

10:30-11:00 **Coffee break**

Parallel session 8 – Helia Hall

On the interface of symbiotic/pathogenic interactions

Chairs: Rene Geurts, Pascal Ratet

11:00 **Shin Okazaki**

Symbiotic Roles of the Type III Secretion System in Bradyrhizobium elkanii

11:15 **Benjamin Gourion**

Exploring the Immune Status of Nodules

11:30 **Péter Körmöczi**

The Incompatible Interaction between Medicago truncatula A17 and Sinorhizobium meliloti RM41 Induces Early Nodule Senescence

11:45 **Sebastian Schornack**

The Medicago api Gene is Required for Full Colonisation by P. Palmivora as well as Nitrogen Fixing Bacteria

12:00 – 12:40 *Lightning Talks (short oral presentations)*

Zoltán Bozsóki

Symbiosis or Defense: The Molecular Mechanism Involving LysM Receptors of the Model Legume Lotus japonicus

Jongho Sun

Assessing the Relevance of a Range of Polysaccharide Signaling Molecules for Activation of Symbiotic Signaling

Irina Leppyanen

The Investigation of the Mechanisms by which Pea Plants Discriminate and Respond to Structurally Related COs Signals from Symbiotic and Pathogenic Fungi

Nicolas Busset

Hopanoids Play an Important Role in Bradyrhizobium Strains during Their Free-living and Symbiotic States

Francisco López-Baena

Unraveling Plant Cellular Targets for the Rhizobium-Specific effectors NopL and NopP

Dong Wang

Specialised Protein Secretion in Plant-Microbe Symbioses

Getinet Desalegn

Rhizobia Inoculation Reduces Didymella Pinodes Impacts on Photosynthetic Efficiency of Pisum Sativum

Parallel session 9 – Panorama Room

Evolution, diversity and ecology

Chairs: Euan James, Peter Young

11:00 **Arjan van Zeijl**

Genetic Dissection of the Rhizobium Nodulation Trait using Interspecific Crosses between Symbiotic Parasponia and Non-symbiotic Trema Species

11:15 **Ruben Garrido Oter**

Root Nodule Symbiosis in Lotus japonicus Drives the Establishment of Distinctive Rhizosphere, Root, and Nodule Bacterial Communities

11:30 **Vladimir Zhukov**

Molecular Evolution of Paralogous Symbiotic Receptor Kinase Genes in Pea (Pisum sativum L.)

12:00 – 12:40 **Lightning Talks (short oral presentations)**

Claude Bruand

Stress-Induced DNA Double-Strand Break NHEJ Repair in Sinorhizobium meliloti: A Function in Lateral Gene Transfer?

Alice Checcucci

Mixed Nodules in Sinorhizobium meliloti – Medicago sativa Symbiosis Suggest the Presence of a Cheating Behavior

Elizaveta Chirak

Structure and Functional Design of the Plasmid Regions Harboring Sym Genes in Rhizobium leguminosarum: New Evidence for Intensification of Horizontal Gene Transfer and Narrowing the Host Range in Rhizobia Evolution

Mitchell Andrews

The Range of Rhizobia in New Zealand Soils

Delphine Capela

Genetic Evidence that Local Legume Sanctions Drive the Emergence of Symbiotic Nitrogen Fixation

Anastasiia Kimeklis

Symbiotic Divergence of Rhizobium leguminosarum Strains from Relict Legume Vavilovia formosa: A Background for Identification of Novel Biovar

Sara Moeskjaer

The Impact of Host Genotype and Geographical Origin on Rhizobium leguminosarum Genetic Diversity

Vladimir Kopat

Evolution of fixNOQP Genes Encoding for the High-affinity Cytochromoxidase: Insight from the Genomes of Symbionts from the Relic Legume Vavilovia formosa

Kathryn Wigley

Carbon Utilisation by Strains of Rhizobium spp. in Sterile Soil

12:40-14:00 **Lunch**

Plenary lectures – Helia Hall

Chair: Jens Stougaard

10. Commonalities and specialities of symbiotic interactions

- 14:00-14:30 **Peter Mergaert**
Widespread Use of Antimicrobial Peptides in Bacterial Symbiosis
- 14:30-15:00 **Martin Grube**
The Diverse Bacterial Side of Lichens: Key to a New Concept of Symbioses

11. The present and the future agricultural use of BNF

- 15:00-15:30 **Giles Oldroyd**
Dissecting and Engineering symbiosis signalling
- 15:30-16:00 **Ken Giller**
The Broader Benefits of N₂-fixation
- 16:00-16:30 **Closing of the conference**
- 16:30-18:00 **Free time**
- 18:00 **Gathering in the hotel lobby**
- 18:30-21:30 **River cruise & banquet dinner**
- 22:00-24:00 **Dance party at the restaurant of the venue hotel**

Posters

Poster session 1: odd numbers (18:00-19:30, Friday, 26 August 2016)

Poster session 2: even numbers (18:00-19:30, Saturday, 27 August 2016)

Room Orion

1. Signal perception and transduction

POSTER 1-1 /LIGHTNING TALK/

Jean-Francois Arrighi

*From the Genetic Map to the Genome Assembly of the Nod Factor-independent *Aeschynomene evenia* to Shed Light on the Evolution of Nodulation*

POSTER 1-2 /LIGHTNING TALK/

Anton Sulima

*The Pea (*Pisum sativum* L.) Receptor-like Kinase Gene *LykX*, the Most Prominent Candidate for *Sym2*, is Required for Successful Penetration of *Rhizobia* into the Root Hair*

POSTER 1-3 /LIGHTNING TALK/

Eiichi Murakami

Lotus-Rhizobium Symbiosis is Facilitated by the Epidermal Nod Factor Receptor

POSTER 1-4 /LIGHTNING TALK/

Katja Katzer

A Novel Component of the CCaMK/CYCLOPS Complex Regulates Root Nodule Symbiosis

POSTER 1-5 /LIGHTNING TALK/

Carole Laffont

*KNAT3/4/5-like KNOX Transcription Factors Regulate Symbiotic Nodule Organ Development in *Medicago truncatula* Potentially through the MtEFD/MtRR4 Cytokinin-related Regulatory Module*

POSTER 1-6 /LIGHTNING TALK/

Michael Djordjevic

*Nodule and Lateral Root Development are Mediated by Independent Pathways Downstream of the MtCEP1 Peptide / CRA2 Receptor in *Medicago truncatula**

POSTER 1-7

Huijun Liu

*Characterisation of the Novel *Lotus japonicus* Symbiotic Mutant EXO422*

POSTER 1-8

Yumeng Chen

*Characterizing the Role of Cytokinin Transport in *Lotus japonicus* Nodule Development*

POSTER 1-9**Marcin Nadzieja***DII-based Auxin Accumulation Sensor Reveals a Novel Auxin Contribution to the Symbiotic Infection in Lotus japonicus***POSTER 1-10****Jaslyn Wong***Discovery of Interaction Partners of Nod Factor Receptor 5 (NFR5) in Lotus japonicus***POSTER 1-11****Doreen Feike***Engineering Nodulation Signalling in Barley***POSTER 1-12****Terry Mun***Functional Diversification of Duplicated EIN2 in Lotus japonicus***POSTER 1-13****Mandana Miri***Gatekeepers of Rhizobia Entry: Cytokinin-ethylene Crosstalk Regulates Infection in Lotus japonicus***POSTER 1-14****Simon Kelly***Identifying Downstream Effects of Lotus japonicus Exopolysaccharide Receptor EPR3***POSTER 1-15****Mahboobeh Azarakhsh***KNOX3 as a Possible Activator of Cytokinin Biosynthesis Genes in Medicago truncatula***POSTER 1-16****You Wang***Microrna167-directed Regulation of the Auxin Response Factors Gmarf8a and Gmarf8b is Required for Soybean Nodulation and Lateral Root Development***POSTER 1-17****April Hastwell***Nodulation Suppressive Glycosylated CLE Peptides in Glycine max and Pisum sativum***POSTER 1-18****Kevin Garcia***Production of Nod Factors by the Gamma-proteobacterium Pseudomonas protegens***POSTER 1-19****Damien Formey***Regulation of Small Rnas and Corresponding Targets in Nod Factors-induced Phaseolus vulgaris Root Hair Cells*

POSTER 1-20

Shaun Ferguson

Role of Nod Gene Expression in Competitive Nodule Formation by Clover Rhizobia

POSTER 1-21

Christine Hervé

What are the Consequences of the Phosphorylation of PUB1 by Symbiotic Receptors DMI2 and LYK3 in Nodulation?

2. Biochemistry of key processes and enzymes

POSTER 2-1 /LIGHTNING TALK/

Kira Gysel

Comparative Biochemical Studies of Lotus japonicus LysM Receptor like Kinases

POSTER 2-2 /LIGHTNING TALK/

Carmen Sanchez-Canizares

Regulation of Bacterial Metabolism by the Phosphotransferase System (PTS_{Ntr})

POSTER 2-3 /LIGHTNING TALK/

Christian Staehelin

The Nod Factor Hydrolase of Medicago truncatula: An Example of Symbiosis-Related Neofunctionalization

POSTER 2-4 /LIGHTNING TALK/

Michael Göttfert

From Symbiosis To Biotechnology: The Metal Ion-Inducible Autocleavage (MIIA) Domain

POSTER 2-5 /LIGHTNING TALK/

Laure Decamps

Heterologous Expression of Enzymes of the Nitrogenase Pathway

POSTER 2-6 /LIGHTNING TALK/

Daniel Hsieh

Exploring The Function of the Inorganic Phosphate Transporter (Pit)-Associated Protein in Sinorhizobium meliloti

POSTER 2-7

Julie Ardley

A Regulatory Model for Acid-induction of the lpiA/ acvB Operon in Ensifer medicae

POSTER 2-8

Mariana Sámano

An Intriguing Mode of Pantothenate Synthesis in Rhizobia

POSTER 2-9

Gema Lopez-Torrejon

Expression of A Functional Oxygen-Labile Nitrogenase Component in the Mitochondrial Matrix of Aerobically Grown Yeast

POSTER 2-10

Anibal Lodeiro

Regulation of Polyhydroxybutyrate Synthesis in Bradyrhizobium Diazoefficiens

POSTER 2-11

Qi Cheng

Review of Studies on Four Enzymes in Bacteriochlorophyll (BChl) and Chlorophyll (Chl) Biosynthesis

POSTER 2-12

Pushpita Maulik

Some Studies on the Regulation of Glutamate Dehydrogenase with Mutants of Azospirillum brasilense

POSTER 2-13

Jeryl Cheng

Structural and Biochemical Characterisation of the Lotus japonicus Lys6: A Lysm Receptor- like Kinase Involved in Chitin Perception

POSTER 2-14

Rui Lima

The Nodule-specific Signal Peptide Peptidase is Required for Nitrogen Fixing Bacteroid Differentiation in Medicago truncatula

3. Infection and invasion

POSTER 3-1 /LIGHTNING TALK/

Andreas Niebel

NF-Y TFs as Key Regulators of Nodule Development and Infection

POSTER 3-2 /LIGHTNING TALK/

Fang Xie

SCARN a Novel Class of SCAR Protein that is Required for Root-hair Infection during Legume Nodulation

POSTER 3-3 /LIGHTNING TALK/

Fernanda de Carvalho-Niebel

Host Cell Reprogramming For Rhizobial Root Infection

POSTER 3-4 /LIGHTNING TALK/

Yasuyuki Kawaharada

The ERF Required for Nodulation1 (ERN1) Transcription Factor is Required for Root Nodule Infection in Lotus japonicus

POSTER 3-5 /LIGHTNING TALK/

Marion Cerri

Regulation of Lotus japonicus ERN1 by the CCaMK/ CYCLOPS Complex Constitutes a Central Step in the Transcription Factor Network Controlling Bacterial Accommodation

POSTER 3-6 /LIGHTNING TALK/

Annet Westhoek

Policing the Gate: Can Pea Plants Stop Rhizobial Cheats From Entering?

POSTER 3-7 /LIGHTNING TALK/

Thomas Ott

Molecular Control of Receptor Mobility Shifts during Rhizobial Infection

POSTER 3-8

José Vinardell

A Deep Study of the Role of Different Regulatory Genes in the Symbiotic Abilities of Sinorhizobium fredii HH103: Inactivation of nodD2 or nolR Enables this Strain for Nodulation with Lotus japonicus

POSTER 3-9

Alexey Afonin

Characterization of Rhizobial Strains Capable of Overcoming Restrictive Phenotypes of Pea (Pisum sativum L.)

POSTER 3-10

Díez Méndez Alexandra

Colonization and Changes of Root Hair Morphologies Induced by Rhizobium cellulositicum on Different Legumes

POSTER 3-11

Anna Kitaeva

Comparative Analysis of Tubulin and Actin Cytoskeleton Organization in Symbiotic Nodules of Pea (Pisum sativum L.)

POSTER 3-12

Benjamin Perry

High-throughput Transposon Mutagenesis Screening of Pea Symbiont Rhizobium leguminosarum to Investigate Colonization of the Germinating Pea Spermophere and Radicle

POSTER 3-13

Lorena Celador

Implications of Rhizobium Cellulase celc2 Heterologous Expression in Cereal Root Colonization

POSTER 3-14

Alejandro Jiménez-Gómez

Rhizobium sp Actively Colonizes Spinach (Spinacia oleracea L.) Roots

POSTER 3-15

Martina Beck

Role of Cell-to-cell Communication during the Establishment of the Nitrogen-fixing Symbiosis

POSTER 3-16

Maria Fernanda Guerrero Molina

Symbiotic Genes Regulated by ERN1/ERN ERF Transcription Factors

POSTER 3-17

Raphael Ledermann

The Pleiotropic Phenotype of a Bradyrhizobium diazoefficiens Δ ecfG Mutant under Free-living and Symbiotic Conditions

POSTER 3-18

Benoit Alunni

Transcripto-proteomic Dissection of Differentiated Bacteroid Physiology using Bradyrhizobium Strains in Interaction with Soybean and Aeschynomene Legume Hosts

POSTER 3-19

Terry Mun

Web-based Visualization of Expression Data and Gene Co-expression Networks in Lotus japonicus

4. Interplay of nitrogen-fixing and mycorrhizal symbioses

POSTER 4-1 /LIGHTNING TALK/

Rosa Elena Andrade Aguirre

Do you Want to Join the Complex? Towards the Identification of New CCaMK/CYCLOPS Interactors

POSTER 4-2 /LIGHTNING TALK/

Igor Tikhonovich (Kulaeva)

The Process of Bacteroid Differentiation in Pea (Pisum sativum L.) is Controlled by Symbiotic Genes that Regulate the Expression of the NCR Gene Family

POSTER 4-3 /LIGHTNING TALK/

Anna Zdyb

Expression Of A Rhizobial Efflux System And Its Associated Transcriptional Regulator During Nodule Development

POSTER 4-4 /LIGHTNING TALK/

Marcela Mendoza-Suárez

Rhizobial Competition: Getting to the Root of the Problem

POSTER 4-5 /LIGHTNING TALK/

Anna Igoalkina

Plant as an Evolutionary Driver of Symbiotic Microbiome

POSTER 4-6 /LIGHTNING TALK/

Kritarth Seth

Effect of Phosphate Solubilization on Nitrogen Fixation in Clover

POSTER 4-7 /LIGHTNING TALK/

Katrin Petersen

*Quorum Sensing Controls Phenotypic Heterogeneous Expression of the Autoinducer Synthase Gene *traI* via Copy Number Control of *pNGR234a* in the Plant Symbiont *S. fredii* NGR234*

POSTER 4-8

Amalia Soenens

Characterisation of Symbiotic and Non-symbiotic Rhizobial Diversity in an Agricultural Soil

POSTER 4-9

Gabriella Pessi

Competition of α - and β -rhizobia for Legume Infection

POSTER 4-10

Cecilia Taulé

Response of the Endophytes Plant-growth Promoters Enterobacter sp. UYSO10 and Shinella sp. UYSO24 to Sugarcane Roots Exudates

POSTER 4-11

Pongdet Piromyou

Role of TTSS on Symbiotic Establishment between Non-Photosynthetic Bradyrhizobia and Leguminous Plants

POSTER 4-12

Laila Dubova

The Influence of Rhizobia Strains on the Yield Formation of Broad Beans (Vicia faba) in the Different Soil Types

Room Mercure

5A. Functioning of the nitrogen-fixing symbioses /bacteria/

POSTER 5A-1 /LIGHTNING TALK/

Marta Robledo

sRNA-mediated Regulation of the Cell Cycle Master Regulator CtrA in Sinorhizobium meliloti

POSTER 5A-2 /LIGHTNING TALK/

Ken-ichi Yoshida

Inactivation of PhaR Involved in Poly-beta-hydroxybutyrate Accumulation in Bradyrhizobium japonicum USDA110 and its Pleiotropic Effects

POSTER 5A-3 /LIGHTNING TALK/

Rachel Wheatley

Insertion Sequencing in Rhizobium leguminosarum bv. viciae 3841

POSTER 5A-4 /LIGHTNING TALK/

Chang Fu Tian

MucR is Required for Transcriptional Activation of Conserved ion Transporters to Support Nitrogen Fixation of Sinorhizobium fredii in Soybean Nodules

POSTER 5A-5 /LIGHTNING TALK/

Kathrin Wippel

Stringent Response-mediated Transcriptional Changes in the Medicago-Sinorhizobium Root Nodule Symbiosis

POSTER 5A-6

Monika Janczarek

A regulatory Protein Encoded by rosR Affects Protein Secretion and Envelope Integrity of Rhizobium leguminosarum bv. Trifolii

POSTER 5A-7

Jose Palacios

A Rhizobium leguminosarum bv viciae DNA Region Involved in Host-specific Symbiotic Efficiency

POSTER 5A-8

Jitendrapuri Gosai

Characterisation of Quorum Sensing Proficient Pigeon Pea Nodulating Rhizobia for their Symbiotic Competence and Plant Growth Promotion

POSTER 5A-9

Alison East

Comparison of Rhizobium leguminosarum Determinate and Indeterminate Nodules on Legumes by RNA-Seq Analysis

POSTER 5A-10

Julius Kwesiga

Enhancement of Groundnut Grain Yield in Uganda through Inoculation with Rhizobia

POSTER 5A-11

Lourdes Girard

Functional Analysis of the Two-component Regulatory System hFixL-FixK in Sinorhizobium meliloti

POSTER 5A-12

Pongpan Songwattana

Host-range Determinants of the Divergent Nod-containing Bradyrhizobium Strain DOA9

POSTER 5A-13

Solange Oliveira

Improvement of the Symbiotic Performance of a Chickpea Rhizobium by Additional Copies of the clpB Chaperone Gene

POSTER 5A-14

Panlada Tittabutr

Investigation the Function of Some Nitrogenase Genes Located on Chromosome and Megaplasmid of Bradyrhizobium sp. DOA9

POSTER 5A-15

Samanta Bolzan de Campos

Is T6SS Involved in the Establishment of Symbiosis in Beta-rhizobia?

POSTER 5A-16

Artur Muszynski

Mesorhizobium loti R7A Mutants Deficient in the Biosynthesis of GalA in Lipid A Form Normal Symbioses

POSTER 5A-17

Socorro Mesa

Molecular Basis for Negative Regulation of the Bradyrhizobium diazoefficiens Transcription Factor FixK2

POSTER 5A-18

Alice Checcucci

New Unexpected Functions for ACC Deaminase Genes in Sinorhizobium meliloti

POSTER 5A-19

David Duran Wendt

Proteomic Analysis Reveals Host-specific Differential Expression of Rhizobium leguminosarum bv viciae Proteins in Pea vs. Lentil Bacteroids

POSTER 5A-20

Alise Senberga

Quantity and Quality of Different Pea Cultivars Depending on Rhizobia Strains

POSTER 5A-21

Sachiko Masuda

Rhizobial Type III Effector Protein Regulates Soybean Nodulation

POSTER 5A-22

Kathryn Wigley

The Effect of Aluminium on the Nodulation of Lucerne: A Comparison of Two Rhizobia Strains and Two Lucerne Lines

POSTER 5A-23

Ana Alexandre

The Salt Shock Transcriptional Profile of Mesorhizobium loti MAFF303099 is Distinct from that of Other Rhizobia

POSTER 5A-24

James Chang

The Symbiosis Island of NZP2037 Holds the Secrets to Lotus Host Specificity

POSTER 5A-25

Isabel Webb

Using Raman Microscopy to Investigate Nitrogen Fixation Mutants of Rhizobium leguminosarum

POSTER 5A-26

Martina Lardi

β -rhizobial Symbiosis: New Insights from Genome-wide Transcriptome and Proteome Analysis

5B. Functioning of the nitrogen-fixing symbioses /plants/

POSTER 5B-1 /LIGHTNING TALK/

Gabriella Endre

The Role of U-box ubiquitin Ligases during Plant-Microbe Interactions

POSTER 5B-2 /LIGHTNING TALK/

Manuel Gonzalez-Guerrero

MtNramp1, MtZIP6, and MtCOPT1 are Respectively Responsible for Iron, Zinc, and Copper Uptake by Medicago truncatula Nodule Cells

POSTER 5B-3 /LIGHTNING TALK/

Eric Boncompagni

Thioredoxin 1 s1 is Essential for Bacterial Terminal Differentiation in the Nitrogen-fixing Symbiosis in M. truncatula

POSTER 5B-4 /LIGHTNING TALK/

Stig Andersen

Genetic Dissection of Nodulation Signalling using the LORE1 Insertion Mutant Collection

POSTER 5B-5 /LIGHTNING TALK/

Jesus Montiel Gonzalez

The Profile of NCR Peptides Produced by the Legume Host Correlates with the Morphotype of the Bacteroids

POSTER 5B-6 /LIGHTNING TALK/

Szilárd Kovács

Identification of Novel Symbiotic Plant Genes with the Help of M. truncatula Tnt1 Insertional Mutants

POSTER 5B-7 /LIGHTNING TALK/

Katharina Schiessl

What Defines and Regulates Nodule Identity and Organogenesis?

POSTER 5B-8

Ana Ribeiro-Barros

A System's Approach to Analyse Salt Stress Tolerance in Casuarina Glauca and the Contribution of Symbiotic Frankia Bacteria

POSTER 5B-9

Alena Samorodova

Agrobacterial Tumors as Possible Triggers of AON (Autoregulation of Nodulation) Suppressing Nodule Development

POSTER 5B-10

Anikó Gombár

Analysis of a Cysteine-rich Receptor-like Protein Kinase Required for the Effective Symbiotic Interaction between Medicago truncatula and Sinorhizobium meliloti

POSTER 5B-11

Macarena Gerding

Co-inoculation with Rhizobia and Plant Growth Promoting Bacteria Improve Nodule Occupancy and Grain Production in Lentil

POSTER 5B-12

Victoria Lara

Effect of Heavy Metal Stress on the Medicago - Ensifer Symbiosis: Analysis of Cultivars and Strains with Different Sensitivities to Cadmium

POSTER 5B-13

Marina S. Kliukova

Identification and Characterization of a Gene Family Encoding NCR Peptides in Pea (Pisum sativum L.)

POSTER 5B-14

Jean-Malo Couzigou

Keeping Nodules in Check: Interplay of Rhizobial and Host Factors Controlling Nodule Morphogenesis and Integrity in Soybean?

POSTER 5B-15

Tatiana Serova

*Molecular-genetic and Physiological Analysis of Senescence of Pea (*Pisum sativum* L.) Symbiotic Nodules*

POSTER 5B-16

Manuel Tejada-Jimenez

*MtMOT1.3 Mediates Molybdenum Transport to Rhizobia-infected *Medicago truncatula* Nodule Cells*

POSTER 5B-17

Jie-Shun Lin

*NIT1, a Novel Component is Essential for Nitrate Inhibition of Nodulation in *Medicago truncatula**

POSTER 5B-18

Euan James

*Nitrogen Fixation by Faba Bean (*Vicia faba* L.) in a 4 Year Crop Rotation in East Scotland*

POSTER 5B-19

Christine Lelandais-Briere

*Study of Small RNAs and their Related Synthesis Pathways in the Development of Nitrogen Fixing Nodules in the Model Legume *Medicago truncatula**

POSTER 5B-20

Gyöngyi Kováts

*The Identification of the SST1 (Symbiotic Sulfate Transporter) Gene in *Medicago truncatula**

POSTER 5B-21

Katharina Markmann

*The Role of Phased *Sirnas* in *Lotus japonicus* Development and Nodulation Symbiosis*

POSTER 5B-22

Stefanie Wienkoop

*Tracing the Sulfur-Proteome of Nitrogen-Fixing Root Nodules in *Lotus japonicus**

Room Helia

6. Biological nitrogen fixation in non-legume environments

POSTER 6-1 /LIGHTNING TALK/

Yongliang Yan

The RNA Chaperone Hfq is a Global Regulator in the Nitrogen-fixing Pseudomonas stutzeri A1501

POSTER 6-2 /LIGHTNING TALK/

Vijay Singh

Identification and Functional Characterization of Genes Involved in Carbon Source Utilization in A. brasilense Sp7

POSTER 6-3 /LIGHTNING TALK/

Luciana Fernandes de Brito

Development of Tools for Transformation and Gene Expression in Paenibacillus Species and Complete Genome Sequence of Paenibacillus riograndensis SBR5

POSTER 6-4 /LIGHTNING TALK/

Christopher Waite

The Regulation of Nitrogen Fixation and Assimilation in the Associative Diazotroph Klebsiella oxytoca M5a1

POSTER 6-5 /LIGHTNING TALK/

Paramasivan Ponraj

Engineering a Biased Plant Rhizosphere to Establish Synthetic Symbioses in Cereals

POSTER 6-6 /LIGHTNING TALK/

Hassen Gherbi

Signaling Pathway in the Actinorhizal Root Nodule Symbiosis

POSTER 6-7 /LIGHTNING TALK/

Denis Warshan

Functional Genomics of Cyanobacteria in Symbiosis with Boreal Feather Mosses

POSTER 6-8 /LIGHTNING TALK/

Than Van Nguyen

Evolution of the Actinorhizal Symbiosis: Analysis of Bacterial Genomes of the Basal Cluster

POSTER 6-9

Andrea Krause

An Ethanol Responsive Hierarchical Signal Cascade - Important for the Endophytic Life of Azorarcus sp. BH72

POSTER 6-10

Hannes Schmidt

Diversity and Activity of Diazotrophs Associated with Micro-environments of Wetland Rice

POSTER 6-11

Guillaume Schwob

*Green Alder (*Alnus viridis*, Chaix, DC) Encroachment Shapes Differently Fungal and Bacterial Communities in Subalpine Soils*

POSTER 6-12

Veronica Reis

Growth Promotion and Nitrogen Metabolism of Two Sugarcane Varieties Inoculated with Diazotrophs

POSTER 6-13

Dragana Bjelic

Growth Promotion of Two Maize Hybrids by Inoculation with Different PGPR

POSTER 6-14

Fernanda Plucani do Amaral

*Mechanistic Studies of Bacterial Plant Growth Promotion using the Grass Model Plants *Brachypodium* and *Setaria**

POSTER 6-15

David Malatinszky

*Modelling and Engineering *Anabaena* sp. PCC 7120 for Ammonia Excretion*

POSTER 6-16

Veronica Reis

PGPR in Sugarcane when, where and how? - Initial Colonization of Different Bacterial Strains Visualized in situ Combined with PGPR Related Transcript Quantification

POSTER 6-17

Nastasija Mrkovacki

*The Effect of *Azotobacter Chroococcum* on Rhizosphere Microorganisms and Sugarbeet Yield in Organic Farming*

POSTER 6-18

Lempie Ekandjo

*The Role of *anfH* and *nifH* on Biological Nitrogen Fixation in the Plant Growth-promoting Bacterium *Kosakonia radicinans* DSM16656(T)*

POSTER 6-19

Valérie Hocher

Transcriptomics for Deciphering Actinorhizal Symbiosis

POSTER 6-20

André Martinez Oliveira

Use of Trap Plants to Isolate PGPB Strains from Soils under Different Land Uses and Its Application as Inoculant for Non-legumes

7. Free-living nitrogen fixation

POSTER 7-1 /LIGHTNING TALK/

Sofie Vonlanthen

Isolation and Characterization of Two New Nitrogen Fixing Unicellular Cyanobacteria from the Indian Ocean

POSTER 7-2 /LIGHTNING TALK/

Mónica Navarro Rodríguez

*Molybdenum Metabolism in *Azotobacter vinelandii**

POSTER 7-3 /LIGHTNING TALK/

Agneta Norén

*Studies of DraB, a Small Thioredoxin like Protein in *Rhodospirillum rubrum* with an Unknown Function Encoded within the Dra Operon*

POSTER 7-4

Sophie Rabouille

Exploring Diazotrophic Growth Processes in Marine Cyanobacteria using Combined, Experimental and Modeling Approaches

Room Uranus

8. On the interface of symbiotic/pathogenic interactions

POSTER 8-1 /LIGHTNING TALK/

Zoltán Bozsóki

*Symbiosis or Defense: The Molecular Mechanism Involving LysM Receptors of the Model Legume *Lotus japonicus**

POSTER 8-2 /LIGHTNING TALK/

Jongho Sun

Assessing the Relevance of a Range of Polysaccharide Signaling Molecules for Activation of Symbiotic Signaling

POSTER 8-3 /LIGHTNING TALK/

Irina Leppyanen

The Investigation of the Mechanisms by which Pea Plants Discriminate and Respond to Structurally Related CO₂ Signals from Symbiotic and Pathogenic fungi

POSTER 8-4 /LIGHTNING TALK/

Nicolas Busset

*Hopanooids Play an Important Role in *Bradyrhizobium* strains during their Free-living and Symbiotic States*

POSTER 8-5 /LIGHTNING TALK/

López-Baena Francisco

*Unraveling Plant Cellular Targets for the *Rhizobium*-specific Effectors NopL and NopP*

POSTER 8-6 /LIGHTNING TALK/

Dong Wang

Specialised Protein Secretion In Plant-Microbe Symbioses

POSTER 8-7 /LIGHTNING TALK/

Getinet Desalegn

Rhizobia Inoculation reduces Didymella Pinodes Impacts on Photosynthetic Efficiency of Pisum sativum

POSTER 8-8

Katalin Toth

A Key Plant Immune Protein is Essential for the Legume-rhizobium Symbiosis

POSTER 8-9

Mónika Tóth

Analysis of a Medicago truncatula Mutant Showing Induced Defense Responses in Symbiotic Nodules

POSTER 8-10

Attila Farkas

Comparative Analysis of the Bacterial Membrane Disruption Mechanism of Two Natural Medicago truncatula Antimicrobial Peptides

POSTER 8-11

Michiko Yasuda

Effector-triggered Immunity Determines Host Genotype-specific Incompatibility in Legume-Rhizobium Symbiosis

POSTER 8-12

Gonzalo Torres Tejerizo

Genetics and Metabolomics Analysis of a Non-efficient Medicago-rhizobia Symbiosis

POSTER 8-13

Lambert Brau

PGPB P. Fluorescens Creates Oxidative Stress in B. napus in a Hydroponics Growth Pouch System

POSTER 8-14

Marta Marchetti

Selection Regime Drive Divergent Phenotypic Adaptation During the Experimental Evolution of Legume Symbionts

POSTER 8-15

Elena Fedorova

The Expansion of Interface Membrane in Infected Cells of Medicago truncatula Root Nodules: Putative Mechanisms

9. Evolution, diversity and ecology

POSTER 9-1 /LIGHTNING TALK/

Claude Bruand

Stress-induced DNA double-strand Break NHEJ Repair in Sinorhizobium meliloti: A Function in Lateral Gene Transfer?

POSTER 9-2 /LIGHTNING TALK/

Alice Checcucci

Mixed Nodules in Sinorhizobium meliloti - Medicago sativa Symbiosis Suggest the Presence of a Cheating Behavior

POSTER 9-3 /LIGHTNING TALK/

Elizaveta Chirak

Structure and Functional Design of the Plasmid Regions Harboring Sym Genes in Rhizobium leguminosarum: New Evidence for Intensification of Horizontal Gene transfer and Narrowing the Host Range in Rhizobia evolution

POSTER 9-4 /LIGHTNING TALK/

Mitchell Andrews

The Range of Rhizobia in New Zealand Soils

POSTER 9-5 /LIGHTNING TALK/

Delphine Capela

Genetic Evidence that Local Legume Sanctions Drive the Emergence of Symbiotic Nitrogen Fixation

POSTER 9-6 /LIGHTNING TALK/

Anastasiia Kimeklis

Symbiotic Divergence of Rhizobium leguminosarum Strains from Relict Legume Vavilovia formosa: A Background for Identification of Novel Biovar

POSTER 9-7 /LIGHTNING TALK/

Sara Moeskjaer

The Impact of Host Genotype and Geographical Origin on Rhizobium leguminosarum Genetic Diversity

POSTER 9-8 /LIGHTNING TALK/

Vladimir Kopat

Evolution of fixNOQP Genes Encoding for the High-affinity Cytochromoxidase: Insight from the Genomes of Symbionts from the Relic Legume Vavilovia formosa

POSTER 9-9 /LIGHTNING TALK/

Kathryn Wigley

Carbon Utilisation by Strains of Rhizobium spp. in Sterile Soil

POSTER 9-10

Juan Pérez Yépez

1-aminocyclopropane-1-carboxylate Deaminase Gene Correlates with Symbiotic Lineages Nodulating Cicer canariense

POSTER 9-11

Maximilian Griesmann

A Phylogenomic Approach to Unravel the Evolution of the Nitrogen-fixing Root Nodule Symbiosis

POSTER 9-12

Gulnar Akhtemova

*Beneficial Endophytic Bacteria of Pea (*Pisum sativum* L.)*

POSTER 9-13

Sanja Sikora

*Biodiversity and Selection of Indigenous Rhizobia Associated with Pea (*Pisum sativum* L.) in Soils of Western Herzegovina*

POSTER 9-14

Samuel Ndungu

Compea Bradyrhizobia from Coastal and Eastern Kenyan Soils are Diverse as Revealed by Proteomic and Genomic Characterization

POSTER 9-15

Wiebke Bunger

Cultivation of Plant-associated Bacteria Belonging to the Phylum Verrucomicrobia

POSTER 9-16

Esther Menendez

Design of Plant Probiotic Consortia of Rhizobium and Endophytic Bacteria for Application to Legume and Cereal Crops in Lanzarote (Canary Islands)

POSTER 9-17

Nisha Tak

Diversity and Genome Analysis of Novel Nitrogen Fixing Microsymbionts Associated with Legumes in Two Contrasting Climatic Regions of India

POSTER 9-18

Mustapha Missbah El Idrissi

*Diversity of *Lupinus cosentinii* Root Nodule Endosymbiotic Bacteria in Morocco*

POSTER 9-19

Ewa Olenska

*Diversity of *nifH* genes of *Rhizobium leguminosarum* bv. *Trifolii* Strains Derived from 100-yr old Zn-Pb Waste Heap in Southern Poland*

POSTER 9-20

Xavier Cruz Gonzalez

*Diversity of Nodule-associated Endophytic Bacteria from *Cicer arietinum* L. Grown in a Soil of Mainland Spain*

POSTER 9-21

Hanaa Abdelmoumen

*Diversity of Rhizobia that Nodulate Faba Bean *Vicia faba* in Morocco*

POSTER 9-22

Aregu Aserse

*Draft Genome Sequence and Description of *Rhizobium boleqi* sp. nov.*

POSTER 9-23

Rodica Efrose

*Genetic Diversity and Structure of Native *Rhizobia* Associated with *Medicago* spp. Plants*

POSTER 9-24

Joanna Banasiewicz

*Lupin-nodulating *Rhizobia* Isolated from *Lupinus* spp. Native to the Andes and California Carry Phylogenetically Distinct Symbiotic Loci*

POSTER 9-25

Guadalupe Rocha

*Phenotypic Characterization of Abiotic Stress Tolerant *Ensifer* Species Nodulating *Phaseolus filiformis* in Arid Soils of Northern Mexico*

POSTER 9-26

Marta Marcos

*Phylogenetic Diversity of *Mesorhizobium* Strains Nodulating *L. corniculatus* and its Ability to re-infect the Host*

POSTER 9-27

Antonio Munive

*Phylogeny and Molecular Identification of *Ensifer* Species Nodulating *Phaseolus filiformis* in Northern Mexico on the Basis of Multilocus Sequence Analysis*

POSTER 9-28

Stig Andersen

*Population Genetics of *Rhizobium leguminosarum* Based on 192 de novo Assembled Genomes*

POSTER 9-29

Clive Ronson

*Proficiency to Transfer the Symbiosis Island is a Bistable Phenotype in *Mesorhizobium loti* Strain R7A Populations*

POSTER 9-30

Veronica Reis

**Rhizobium Altiplani*, New Species Isolated from Root Nodules of *Mimosa pudica* in Brazil*

POSTER 9-31

Kristina Lindström

SOILMAN - Mapping, Management and Resilience of Ecosystem Services for Food Security and Response to Climate Change in Ethiopia

POSTER 9-32

Florence Mus

Strategies for Increased Ammonium Production in Free-living or Plant Associated Nitrogen Fixing Bacteria

POSTER 9-33

Frans de Bruijn

Biological Nitrogen Fixation Book Volume I and II



12th European Nitrogen Fixation Conference, 2016

General information

Venue

Danubius Thermal Hotel Helia****

Budapest

Kárpát Street 62-64.

H-1133

GPS Coordinates: N 47°31'32" E 19°3'21"

Registration desk

Thursday, 25 August 2016 10:00-19:30

Friday, 26 August 2016 08:00-19:00

Saturday, 27 August 2016 08:00-19:00

Sunday, 28 August 2016 08:00-17:00

WiFi

Network: DanubiusFree

Password: danubius40

Important phone numbers

English is usually spoken at the emergency numbers listed below.

Central help number: 112

Ambulance: 104

Police: 107

General enquiries: 197

International enquiries: 199

Hungarian Automobile Club help number: 188

Fire brigade: 105

Central help number: 112

Inland enquiries: 198

Time

Hungary is in the Central European Time Zone.

In the summer months clocks are set at GMT + 2 hours.

Social events

Welcome reception

Thursday, 25 August 2016 19:00
Danubius Thermal Hotel Helia

The organisers invite you for a buffet dinner on the evening of your arrival. We wish to serve you with some refreshment after your travel. Our other aim is to create a familiar atmosphere where you can meet old friends, and make new relationships, too.

The event is included in the registration fees.

River cruise & banquet

Sunday, 28 August 2016 18:30
Gathering in the hotel lobby at 18:00
Budapest by night on the board of the “Europa” Boat

The pier is within walking distance from the Hotel Helia, the organisers will guide you there. During this event we wish to serve you an excellent feast. The venue of our dinner is the “Europa” boat, the largest dining boat of Budapest. PLEASE NOTE! The boat cruises on the river during the banquet, so there is no possibility to arrive later or leave earlier. The atmosphere will be ensured by the Shisha Café who will provide the music for the evening.

The event is included in the registration fees.

Dance party at the restaurant of the venue hotel

Sunday, 28 August 2016 22:00

After three days filled with science, presentations, discussions and networking we will celebrate our guests and the conference with a dance party at the hotel restaurant. After the banquet dinner we walk back to the hotel where our DJ Venom will provide the music for the dance party.

Authors' guidelines

Oral presentations

Plenary presentations take 30 minutes and **oral presentation** take 15 minutes including questions. Please consider these time frames, appreciate your colleagues and audience by keeping the schedule.

Short oral presentations allow you to present the main aspect of your work in 5 minutes, allowing ~ 1 slide of introduction, 3-4 slides of results and 1 slide of conclusion. There might be short time for questions at the end of the session only. However, this would allow to draw the attention of the colleagues on your work, which you can also present on poster, and thus your results can further be discussed during poster sessions.

Technical instructions:

Please prepare your presentation in .ppt, .pptx (Microsoft Office PowerPoint 97-2013 format) or .pdf file. Please avoid using videos embedded in your show. If you wish to have a video, please contact the technician in the lecture hall in a break before your presentation (or preferably earlier) to check it in advance.

Please note that using your own notebook is not recommended.

Posters

There will be two poster sessions held during the Meeting, however each poster might be mounted during the whole Conference. Mounting: 25th August, from 10:00; Removal: 28th August, before 16:00

Poster session 1.

Odd numbers

Friday, 26 August 2016 18:00-19:30

Poster session 2.

Even numbers

Saturday, 27 August 2016 18:00-19:30

Poster allocation

- Session 1,2,3,4 – Orion Room
- Session 5A, 5B – Mercure Room
- Session 6,7 – Helia Hall
- Session 8,9 - Uranus

Posters left on the boards after the removal deadline will be removed by the organisers.

Technical instructions:

The posters should be prepared for standard STANDING (PORTRAIT) A/0 size (84 x 119 cm – 1 sqm). PLEASE DO NOT PRINT A LANDSCAPE POSTER! The organisers provide all equipment and tools (pins, adhesive tape, scissors) to mount you poster to the board at the conference venue.

