



 

|  |
| --- |
| Thursday 3rd October 2024**ANFC 2024****3rd – 5th October 2024****Brisbane, Australia**International Conference on Legume Genetics and Genomics – Joint Session:Venue: Brisbane Convention & Exhibition Centre, South Brisbane |
| Time | Session | Location |
| 0730  | Registration open and information desk | Foyer |
| 0740  | Arrival tea and Coffee | Foyer |
| 0825  | Welcome Day 4 from Associate Professor Brett Ferguson |
| **Invited Talks**  | Boulevard Auditorium |
| 0830  | Theme: Beneficial symbiosis, Plenary Chair: Assoc Prof Brett Ferguson**Mechanisms of plant-microbe symbiosis and applications**Prof Ertao Wang |
| 0900  | Theme: Plant defence, Plenary Chair: Dr Lars Kamphuis**Breeding pea for improved disease resistance**Prof Tom Warkentin |
| 0930  | Theme: Genomic and predictive breeding, Plenary Chair: Prof Lee Hickey**From sequence to selection: Genomic and predictive breeding for pulse crop improvement**Dr Sukhjiwan Kaur |
| 1000  | Morning tea and exhibition | Foyer |
|  | Concurrent sessions |
|  | Theme: **Symbiotic nitrogen fixation**Location: Boulevard Auditorium Chair: Assoc Prof Brett Ferguson and Dr April Hastwell | Theme: **Genomic and predictive breeding** Location: B1 RoomChair: Dr Sukhjiwan Kaur and Prof Lee Hickey |
| 1030  | Keynote:**A genetic strategy to enhance nitrogen fixation in legumes**Dr Dugald Reid  | Keynote:**Advancing predictive breeding method and capacity building to develop future pulse crops**Prof Lee Hickey |
| 1100  | Keynote:**The common bean (*Phaseolus vulgaris*) – *Rhizobium etli* N-fixing symbiosis: unravelling novel plant regulators through genetic/ genomic approach**Prof Georgina Hernández | **Leveraging North American temperate germplasm to enhance genetic gain in tropical soybean (*Glycine max* L.) for Sub Saharan Africa**Dr Godfree Chigeza |
| 1115  | **Symbiotic NF-Ys affect iron and nitrate homeostasis in *Medicago truncatula*** Prof Jeremy Murray | **Simulation guided establishment of heterotic pools for breeding of synthetic cultivars in faba bean**Sven Weber |
| 1130  | **Nodule-specific PLAT domain (MtNPD1) – dependent host-strain compatibility in the *Medicago truncatula* - *Sinorhizobium* sp. symbiosis**Dr Catalina Pislariu | **Genomic prediction for grain yield and other key traits in field pea**Adnan Riaz |
| 1145 | **Sugar signalling acts as a proxy for cytokinin signalling for de-novo meristem formation during nodule organogenesis**Prof Maitrayee Dasgupta | **Breeding for rapid cooking biofortified bean cultivars for East Africa through novel breeding strategies**Dr Renu Saradadevi |
| 1200  | **Root architecture is regulated by miR2111 and TML in response to soil Pi**Assoc Professor Brett Ferguson | Lightning talks:**Leveraging genome-wide association studies (GWAS) for enhance understanding and breeding of faba bean: Insights from two distinct panels on agronomic traits and stress tolerance**Troels Mouritzen**Genomic selection: a new frontier in mungbean breeding**Prof Maria Valeria Paccapelo**Development of genetic resources for improvement of faba (*Vicia faba L.*) in Western Canada**Dr Nicholas Larkan |
| 1215  | **Genetics and genomics of symbiotic nitrogen fixation in legumes: past, present, and future**Prof Michael Udvardi |
| 1230  | Lunch and exhibition | Foyer |
|  | Concurrent sessions |
|  | Theme: **Beneficial symbioses and microbiomes**Location Boulevard AuditoriumChair: Prof Ulrike Mathesius | Theme: **Plant defence** ILocation: B1 RoomChair: Dr Lars Kamphuis |
| 1330  | Keynote:**Getting to the root of symbiotic root nodule development in legumes**Dr Katharina Schiessl | Keynote:**Pathogen fitness, disease dynamics and host plant resistance under the changing climate scenario with special reference to legumes (chickpea and pigeonpea)**Dr Mamta Sharma |
| 1400  | **Genetic diversity and symbiotic effectiveness of *Mesorhizobium* and *Bradyrhizobium* strains nodulating selected annual grain legumes growing in Ethiopia**Dr Tulu Degefu | **Genetics of Ascochyta blight resistance in chickpea**Dr Judith Atieno |
| 1415  | **Uncovering The role of gibberellin in nodulation: gibberellins restrict rhizobial infection in the epidermis and promote nodule organogenesis in the endodermis and regulate key nodulation genes**Karen Velandia | **Pan-genomic variation of *Pisum* immune receptors enabled identification of novel downy mildew resistances**Dr Sanu Arora, |
| 1430  | **A novel nucleotide-binding domain leucine-rich repeat receptor (NLR) involved in soybean nodulation**Dr Estelle Grundy | **Identification of a QTL-hotspot region for resistance to Ascochyta blight in lentil**Em Thackwray |
| 1445  | **Nodule organogenesis in *Medicago truncatula* requires local stage-specific auxin biosynthesis and transport**Dr Wouter Kohlen | Lightning talks:**Exploring host – pathogen co-evolution rate in natural and agricultural ecosystems: A case study from *Cicer* spp. – *Ascochyta rabiei* pathosystem**Prof Canan Can**RNA-seq analysis of the molecular changes underlying defense responses in chickpea to infection by *Phytophthora medicaginis***Dr Julie Hayes |
| 1500  | Lightning talks:**Exploring potential benefits of biostimulant treatments in lupin cultivation**Dr Marco Loehrer**Non-rhizobial bacteria exhibit persistent colonization in the roots and nodules of chickpea cultivars across diverse environments**Dr Yi Zhou**Ethylene inhibits cell cycle progress in root hairs of *Lotus japonicus* infected by rhizobia**Dr Wenjie Liang**The NRT2.3 nitrate transporter plays a positive role in nodule function *Medicago truncatula***Fuyu Li**Tyrosine sulphated root meristem growth factor peptides regulate root and nodule development in** **soybean**Yuhan Liu |  |
| 1530  | Afternoon tea | Foyer |
|  | Concurrent sessions |
|  | **Theme: Metabolism and quality traits**Location Boulevard AuditoriumChair: Dr Gary Rosewarne | **Theme: Plant defence II**Location B1 RoomChair: Dr Lars Kamphuis |
| 1600  | **Legume nutrition and quality in the context of climate change** Asst Prof Marta Vasconcelos  | **Progress in understanding the *Sclerotinia sclerotiorum* pathosystem** Assoc Prof Mehdi Kabbage  |
| 1630  | **VC2 regulates baseline vicine content in faba bean**Samson Ugwuanyi | **Resequencing of 238 lentil accessions helps to determine genes associated with resistance to a major Fusarium root rot pathogen, *Fusarium avenaceum*** Dr Lyndon Porter  |
| 1645  | **Genomic variation in diverse pea accessions uncovers the genetic basis of seed protein content**Dr Krishna Kishore  | **Introgression of Disease Resistance into *Phaseolus vulgaris* variety OAC Rex from *Phaseolus acutifolius*** Dr K. Peter Pauls  |
| 1700  | **Proteomic approaches for engineering the protein composition of lupin grain**Dr Arineh Tahmasian | **Metabolomics and proteomics integration unveil how secondary cell wall thickening in peanuts helps in resisting aflatoxin accumulation** Dr Yogendra Kalenahalli |
| 1715  | Lightning talks:**Unlocking the potential of grass pea: Improving nutritional traits through investigation of natural diversity** Jasmine Staples **Molecular basis of grain calcium content in pigeonpea through comparative proteomics analysis** Ashwini Kalyan **Exploring the lupin genome: Uncovering lipoxygenase genes to enhance flavour** Lam Jiang & Dr Lingling Gao |  |
| 1730  | Closing plenary: ICLGG Chair: Prof Michael UdvardiAwardsAcknowledgment of sponsorsBoulevard Auditorium |

|  |
| --- |
| Friday 4th October 2024Venue: Queensland Parliamentary House Annexe |
| Time | Session | Location |
| 0730  | Registration Open | Colonnade – Level 3 - Annexe |
| 0830 | Welcome to Country: Greg Egert; & Welcome to ANFC: A/Prof Brett Ferguson |
| Session 1 |
| Theme: **Symbiotic Nitrogen Fixation – Microbes**, Chairs: Dr Jason Terpolilli & Kit BurnsLocation: Undumbi Room – Level 5 – Annexe |
| 0845  | Keynote: **What is a bacteroid?**Prof Phil Poole |
| 0915  | **Symbiotic Variations among *Bradyrhizobium* strains inducing nodulation in soybean plants independent of nod factors**Prof Shin Okazaki |
| 0930  | **Utilising nodulation genes to predict host range of *Mesorhizobium ciceri* strains WSM1497 and WSM1284**Georgina Robbins |
| 0945  | **Transcriptomic analysis of *Cicer arietinum* endosymbiont *M. ciceri* CC1192 in free-living and symbiotic conditions**Dr Maclean Kohlmeier |
| 1000 | **Characterisation and effectiveness of potential inoculants for the novel pasture legume, *Scorpiurus muricatus***Kit Burns |
| 1015  | Morning Tea | Colonnade – Level 3 - Annexe |
| Session 2 |
| Theme: **Symbiotic Nitrogen Fixation – Microbes**, Chairs: Dr Graham O’ Hara & Jordan DavisLocation: Undumbi Room – Level 5 – Annexe |
| 1045 | Keynote: **Evolution and effectiveness of symbiotic N2 fixation in rhizobia**Dr Jason Terpolilli |
| 1115 | **Symbiotic performance of chickpea *Mesorhizobia* with diverse ICESyms**Dr Rosalind Deaker |
| 1130  | **The evolution of chickpea nodulating *Mesorhizobium* through ICE*Mc*Sym1192 transfer in Australia: Are there alternative ICE’s?**Dr Yvette Hill |
| 1145  | **A preliminary snapshot of diversity within mungbean nodulating rhizobia in the northern growing regions of Australia**Marshall Tye |
| 1200  | **Some wild *Bradyrhizobia* promote mungbean growth or fix nitrogen as well as the commercial strain under abiotic stress**Dr Mandy Christopher |
| 1215 | Group Photo |
| 1230  | Lunch | Colonnade – Level 3 - Annexe |
| Session 3 |
| Theme: **Symbiotic Nitrogen Fixation – Plants**, Chair: Dr April Hastwell & Alexandria MattinsonLocation: Undumbi Room – Level 5 – Annexe |
| 1315  | Keynote: **Single-cell sequencing on soybean nodules identifies genes facilitating rhizobium infection**Prof Zhe Yan |
| 1345  | **Making the most of single cell data in legume-rhizobia symbiosis**Dr Dugald Reid |
| 1400  | **A symbiotic flavonoid map of *Medicago***Prof Ulrike Mathesius |
| 1415  | **Silicon mitigates drought stress and supports carbon-nitrogen dynamics and biological nitrogen fixation in lentil plants**Dr Sajitha Biju |
| 1430  | **Roots to seeds:** **Discovering and utilizing nodulation genes for high-yielding soybean**Prof Yuefeng Guan |
| 1445  | Flash Talk: **Non-nodulating mutants to quantify nitrogen-fixation of legume crops**Grace Weston-Olliver |
| 1450  | Flash Talk:  **Regulatory network of nodule senescence pathway of the transcription factor FUN identified using DAP-seq**Timothy Cameron |
| 1455  | Afternoon Tea | Colonnade – Level 3 - Annexe |
| Session 4 |
| Theme: **Symbiotic Nitrogen Fixation- plants**, Chairs: Prof Ulrike Mathesius & Grace Weston-OlliverLocation: Undumbi Room – Level 5 – Annexe |
| 1530  | Keynote:**Root Meristem Growth Factor (RGF) peptides regulate soybean legume nodule development**Dr April Hastwell |
| 1550  | **GRDC updates and future directions**Dr Cristina Martinez |
| 1600  | **Roles of UmamiT amino acid transporters in nodule function**Emeritus Prof Michael Djordjevic |
| 1615  | **Genomic footprints and functional impact of domestication on symbiotic nitrogen fixation**Prof Doug Cook |
| 1630  | **Light sensitive short hypocotyl (LSH) genes confer symbiotic nodule identity in *Medicago truncatula***Dr Katarina Schiessl |
| 1645  | **Decoding CLE-SUNN-Mediated Autoregulation of Nodulation in *Medicago truncatula***Assoc Prof Nijat Imin |
| 1700  | Flask Talk: **The role of CLE peptides in nodulation… AND MORE!**Alexandria Mattinson |
| 1800 | Conference Dinner: Stamford Plaza Brisbane Hotel Grand Ballroom |

|  |
| --- |
| Saturday 5th October 2024Venue: Queensland Parliamentary House Annexe  |
| Time | Session | Location |
| 0730  | Registration Open | Colonnade – Level 3 - Annexe |
| Session 5 |
| Theme: **Nitrogen Fixation in Agricultural Systems**, Chairs: Dr Liz Farquarson & Georgina RobbinsLocation: Undumbi Room – Level 5 - Annexe |
| 0830  | Keynote: **Quantifying nitrogen fixation by legumes in Australia’s grain production systems at paddock-to-national scales**Prof David Herridge |
| 0900  | **Achieving effective nodulation of legumes through HeadStart-Inoculation: inoculation of prior cereal crops to overcome constraints of dry sowing and promote commercial rhizobia establishment**Chris Poole |
| 0915  | **Nitrogen cycling and management decision making in Central Queensland farming systems – N availability and recovery across the farming system – N impacts on productivity and implications for management in CQ**Dr David Lester |
| 0930  | **Characterising haloalkalitolerant diazotrophs in Technosols co-engineered from bauxite residue**Ge Song |
| 0945  | **Has there been a rapid radiation in N2 fixing systems or is science losing its way?**Dr Murray Unkovich |
| 1000 | Remembering Mike Dilworth: Graham O’Hara & Phil Poole |
| 1010  | Morning Tea | Colonnade – Level 3 - Annexe |
| Session 6Theme: **Nitrogen Fixation in Agricultural Systems**, Chairs: Prof David Herridge & Timothy CameronLocation: Undumbi Room – Level 5 - Annexe |
| 1045  | Keynote: **Soilborne disease of pulse crops: constraints to nodulation and N2 fixation**Dr Liz Farquarson |
| 1115  | **Developing new harvestable Aerial Seeded Pasture Legumes (ASPL’s) to reduce synthetic nitrogen reliance in cropping systems** Dr Ron Yates |
| 1130  | **The role of mineral nitrogen on mungbean nodulation**Dr Sobia Ikram |
| 1145  | **Understanding the nitrogen contribution of chickpea in Queensland using the natural abundance technique**Jordan Davis |
| 1200  | **Group 2 herbicides severely impact the biological nitrogen fixation of French serradella**Benedict Arthur |
| 1215 | Closing Remarks and presentation of Alan H. Gibson Awards |
| 1230  | Lunch | Colonnade – Level 3 - Annexe |