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| 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 Room  Chair: 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 Auditorium  Chair: Prof Ulrike Mathesius | | Theme: **Plant defence** I  Location: B1 Room  Chair: 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 Auditorium  Chair: Dr Gary Rosewarne | | **Theme: Plant defence II**  Location B1 Room  Chair: 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 Udvardi  Awards  Acknowledgment of sponsors  Boulevard Auditorium | | |

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| Friday 4th October 2024  Venue: 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 Burns  Location: 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 Davis  Location: 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 Mattinson  Location: 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-Olliver  Location: 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 | |

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| Saturday 5th October 2024  Venue: 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 Robbins  Location: 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 6  Theme: **Nitrogen Fixation in Agricultural Systems**, Chairs: Prof David Herridge & Timothy Cameron  Location: 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 |