2016 marks the United Nations Food and Agriculture Organization’s International Year of Pulses – a celebration of the importance of these legumes.

Pulses are a valued agricultural crop due to their high seed protein and mineral content and their role in sustainable agricultural practices through a nitrogen-fixing symbiosis with soil bacteria called rhizobia.

Even though pulses are grown and consumed in most regions of the globe, they currently deliver less than 3% of global basic food supplies, which predominantly comes from wheat, maize, rice and soybean.

Since the 1960s, a 200–800% increase in cereal and oilseed yields has been achieved (FAO, 2014), while pulses have only achieved a 54% increase in production over the same period. This lack of growth is primarily due to limited commercial and industrial interest in pulses, in what is commonly considered a ‘specialty crop’ within the general agricultural sector. As continual cropping focuses attention towards sustainable production choices, pulses offer an opportunity to growers to meet this criteria as well as diversify and expand annual plantings.

Coming from a low base, pulses stand at the precipice of achieving rapid expansion in both productivity and quality through targeted research investment.

Australia produces around 3.5% of the global pulse crop (~$1.1 billion AUS), with the majority of commodities being
exported to India, North Africa and Europe. Expanding sustainable pulse production will help to meet the challenges of food production and environmental sustainability.

**On the Pulse** brings together domestic and international researchers to discuss strategies and advances that are future proofing pulse agriculture, focusing on three themes: pulse diversity, pulse benefits to agronomy and genetic pulse sustainability.

– **Associate Professor Brent N. Kaiser**, Chair, 2016 Research Symposium

Visiting symposium presenters include:

**Professor Douglas R. Cook**,  
University of California, Davis USA.  
Director, Feed the Future Innovation Lab - Climate Resilient Chickpea

**Professor Peter M. Gresshoff**,  
University of Queensland.  
Professor of Plant Molecular Genetics and Director, Centre for Integrative Legume Research

**Dr Kristy Hobson**,  
NSW Department of Primary Industries.  
Chickpea Breeder

---

**Event details**  
**On the Pulse:**  
Faculty of Agriculture and Environment Research Symposium 2016  
Tuesday 12 July 2016  
8.15am – 6.00pm  
Veterinary Science Conference Centre  
University of Sydney [Map](#)  

[Register here](#)
On the Pulse
Research symposium
Tuesday 12 July 2016

Order of proceedings

Master of Ceremonies
Dr Damien Field
Faculty of Agriculture and Environment

Order of proceedings

8.15am  Registration
Tea and coffee will be served on arrival

8.30am  Welcome and Opening Remarks
Professor Alex McBratney, Dean, Faculty of Agriculture and Environment

8.50am  Managing Legumes in Challenging Environments

Abiotic Stress in Cool Season Grain
Professor Kadambot Siddique, Hackett Professor of Agriculture Chair and Director of Agriculture, University of Western Australia

Stabilising Pulse Yields in Challenging Environments: Genetic Options
Professor Richard Trethowan, Director, IA Watson Grains Research Centre, Narrabri, Plant Breeding Institute Cobbity, University of Sydney

Presentation by Dr Kristy Hobson, Leader – Pulse Breeding Australia Chickpea Program, Department of Primary Industries

Presentation by Dr Helen Bramley, GRDC Lecturer in Agronomy, Plant Breeding Institute, Cobbity, University of Sydney

Exploring Natural Diversity in Chickpea for Genomic Regions Associated with Salinity Tolerance
Dr Tim Sutton, Principal Scientist, Crop Improvement, SARDI Sustainable Systems

Presentation by Associate Professor Daniel Tan, Faculty of Agriculture and Environment, University of Sydney

Presentation by Mr Peter Kaloki, PhD student, Faculty of Agriculture and Environment, University of Sydney

11.15am  Morning tea

Continued overleaf
Order of proceedings (continued)

11.30am  Delivering Sustainable Legumes

Harvesting Natural Variation for Climate Resilience from Crop Wild Progenitors
Professor Douglas Cook, Professor of Plant Pathology, Director of Feed the Future Innovation Lab for Climate Resilient Chickpea, UC Davis

Presentation by Professor Peter Gresshoff, Plant Molecular Genetics Director, Centre for Integrative Legume Research, University of Queensland

Presentations by Associate Professor Brent N. Kaiser, Legume Biology and Molecular, Department of Plant and Food Sciences, Faculty of Agriculture and Environment, University of Sydney

Presentation by Dr Rosalind Deaker, Lecturer in Rhizobiology and Biological Nitrogen Fixation, Faculty of Agriculture and Environment, University of Sydney

Progress Towards Improving Nitrogen Fixation in Chickpea in the Central Dry Zone of Myanmar
Dr Matt Denton, Senior Lecturer in Agronomy, University of Adelaide

1.30pm  Lunch and poster session

2.10pm  Panel discussion

Challenges and Opportunities for Legumes in Agriculture
Facilitated by Professor Les Copeland

Panel members:
- Professor Douglas Cook
- Representative of GRDC
- Professor Peter Gresshoff

2.35pm  Achieving Benefits from Legume Nitrogen Fixation

Rotational Benefits of Legume N2 Fixation – Universal or with Caveats?
Professor David Herridge, Primary Industries Innovation Centre, School of Environmental & Rural Science, University of New England

Legumes, Nitrogen, Water and Photosynthesis: Prospects for Genetic Improvement
Professor Mark Adams, Director of Centre for Carbon, Water and Food, Faculty of Agriculture and Environment, University of Sydney

Interaction of Nitrogen Fixation and Water Use Efficiency in Chickpeas
Dr Carola Blessing, Postdoctoral Research Associate, Department of Plant and Food Sciences, Faculty of Agriculture and Environment, University of Sydney

3.55pm  3-Minute Thesis (3MT) Competition

Poster awards and 3MT awards

4.45pm  Closing remarks

5.00pm  Cocktail reception

6.00pm  Event close

For more information

Liz Kenna
+61 2 9351 5697
liz.kenna@sydney.edu.au
sydney.edu.au/agriculture/symposium