PLANT ENERGY AND WATER PRODUCTIVITY: From Genes to Environment.

18 - 20 September 2008

Robertson Lecture Theatre, Australian National University, Canberra, Australia.

Day 1 - Thursday 18 September 2008.			
08:00 - 08:20:	**Registration.**		
08:29 - 08:30:	**Welcome address.**	TBA	
Session 1:	**Control of Transpiration.**		
Chair:	***Richard Richards***	*CSIRO Plant Industry, Canberra*	
08:30 - 09:00:	**Sarah Assmann**	Penn State Univ., Pennsylvania, USA	**G-proteins, guard cells, and the control of transpiration**
09:00 - 09:30:	**Peter Franks**	James Cook Univ., Cairns, Australia	**Leaf gas exchange: Stomatal mechanics, hydraulics and environment**
09:30 - 10:00:	**Susanne von Caemmerer**	Australian National Univ., Canberra	**The relationship between stomatal conductance and photosynthesis**
10:00 - 10:30:	**Josette Masle**	Australian National Univ., Canberra	**Transpiration efficiency genes**
10:30 - 10:40:	**General Discussion.**		
10:40 - 11:00:	**Coffee Break.**		
Session 2:	**Roots and Hormone Signalling.**		
Chair:	***Ulrike Mathesius***	*Australian National Univ., Canberra*	
11:00 - 11:30:	**Frank Hochholdinger**	Univ. Tuebingen, Germany	**Genetic dissection of maize root system development**
11:30 - 12:00:	**Robert Sharp**	Univ Missouri, Columbia, USA	**Root growth maintenance under water deficits. Physiology to cell wall proteomics - and back to physiology**
12:00 - 12:30:	**Sally Wilkinson**	Lancaster Univ., Lancaster, UK	**Plant responses to the basic root-shoot ABA signal: modifications in a changing environment**
12:30 - 12:40:	**General Discussion.**		
12:40 - 14:00:	**Lunch and Poster Viewing.**		
Session 3:	**Roots and Hydraulic Signalling.**		
Chair:	***Michelle Watt***	*CSIRO Plant Industry, Canberra*	
14:00 - 14:30:	**Ralf Kaldenhoff**	Darmstadt Univ., Darmstadt, Germany	**Molecular function and significance of plant aquaporins for water transport and photosynthesis**
14:30 - 15:00:	**Brian Loveys**	CSIRO Plant Industry, Urrbrae, South Australia	**Root-to-shoot signalling and exploiting plant response to soil moisture deficit**
15:00 - 15:30:	**Steve Tyerman**	Univ. Adelaide, South Australia	**The role of aquaporins in controlling root hydraulic conductance**
15:30 - 15:40:	**General Discussion.**		
15:40 - 16:00:	**Coffee Break.**		
Session 4:	**Drought Stress and Reproductive Development.**		
Chair:	***Liz Dennis***	*CSIRO Plant Industry, Canberra*	
16:00 - 16:30:	**Michael Nuccio**	Syngenta, Research Triangle Park, North Carolina, USA	**Tools to Improve Productivity in Maize Subject to Drought at Flowering.**

16:30 - 17:00:	**Linda Tabe**	CSIRO Plant Industry, Canberra	**Stem carbohydrate reserves for grain filling in drought.**
17:00 - 17:30:	**Rudy Dolferus**	CSIRO Plant Industry, Canberra	**Control of grain number by reproductive stage drought stress in rice and wheat**
17:30 - 17:40:	**General Discussion.**		
17:40 - 19:30	**Drinks and Poster Viewing.**		
Day 2 - Friday 19 September 2008.			
Session 5:	**Enhancing CO2 uptake efficiency**		
Chair:	***Spencer Whitney***	*Australian National University, Canberra*	
08:30 - 09:00:	**Christoph Peterhansel**	RWTH, Aachen, Germany	**Chloroplastic oxidation of photorespiratory glycolate enhances plant photosynthesis and biomass production.**
09:00 - 09:30:	**Tim Caspar**	Dupont, Wilmington, Delaware, USA	**Strategies for engineering an improved rubisco for increased crop productivity**
09:30 - 10:00:	**Murray Badger**	Australian National Univ., Canberra	**Single cell CO2 concentrating mechanisms in C3 plants based on prokaryotic and algal bicarbonate transporters: is it possible?**
10:00 - 10:30:	**Spencer Whitney**	Australian National Univ., Canberra	**Modifying CO_2-assimilation in plants via plastome engineering of Rubisco**
10:30 - 10:40:	**General Discussion.**		
10:40 - 11:00:	**Coffee Break.**		
Session 6:	**Light and Oxidative stress tolerance**		
Chair:	***Harvey Millar***	*Univ. Western Australia, Perth*	
11:00 - 11:30:	**Phil Mullineaux**	Univ. Essex, Colchester, UK	**ROS-mediated chloroplast-to-nucleus signalling in high light: Insights for diverse abiotic and biotic stresses**
11:30 - 12:00:	**David Kramer**	Washington State Univ, Pullman, Washington, USA	**Co-regulation of the light and dark reactions of photosynthesis: Strategies for plant productivity and responses to environmental challenges.**
12:00 - 12:30:	**Barry Pogson**	Australian National Univ., Canberra	**Systemic Signalling of Oxidative Stress**
12:30 - 12:40:	**General Discussion.**		
12:40 - 14:00:	**Lunch and Poster Viewing.**		
Session 7:	**Organelle Biogenesis and Metabolism, I**		
Chair:	***Ian Small***	*Univ. Western Australia, Perth*	
14:00 - 14:30:	**Asa Strand**	Univ. Umeå, Sweden	**Mg-Protoporphyrin IX, a coordinator of photosynthetic gene expression in the nucleus and the chloroplast**
14:30 - 15:00:	**Steve Smith**	Univ. Western Australia, Perth	**Sterol signaling in response to abiotic stresses in Arabidopsis**
15:00 - 15:30:	**Jim Whelan**	Univ. Western Australia, Perth	**Interaction of regulatory pathways controlling the expression of genes encoding mitochondrial and chloroplast proteins**
15:30 - 15:40:	**General Discussion.**		
15:40 - 16:00:	**Coffee Break.**		
Session 8:	**Organelle Biogenesis and Metabolism, II**		
Chair:	***Murray Badger***	*Australian National Univ., Canberra*	
16:00 - 16:30:	**Andreas Weber**	Heinrich-Heine-Univ., Dusseldorf, Germany	**Intracellular metabolite transport in C3 and C4 plants**

16:30 - 17:00:	**Allan Green**	CSIRO Plant Industry, Canberra	**Metabolic engineering of fatty acid biosynthetic pathways spanning plastidic, microsomal and cytosolic compartments of developing seed cells**
17:00 - 17:30:	**Dean DellaPenna**	Michigan State Univ. East Lansing, USA	**Integrating genetics, genomics and natural variation to study plastid metabolism**
17:30 - 17:40:	**General Discussion.**		
17:40 - 19:30	**Drinks and Poster Viewing.**		
20:00 - 00:00	**Conference Dinner at Hudson's Café, Australian National Botanic Gardens.**		
Day 3 - Saturday 20th September 2008.			
Session 9:	**From Artifical Photosynthesis to Biofuel production**		
Chair:	***Bob Furbank***	*CSIRO Plant Industry, Canberra*	
08:30 - 09:00:	**Steve Long**	Univ. Illinois, Urbana, Illinois, USA	**Increasing productivity - the common denominator in meeting food and fuel demands. Can improved photosynthetic efficiency contribute?"**
09:00 - 09:30:	**Ben Hankamer**	Univ. Qld, St. Lucia, Brisbane	**The Solar Biofuels Consortium: Developing high-efficiency microalgal biofuel production systems**
09:30 - 10:00:	**Thomas Sharkey**	Michigan State Univ., East Lansing, Michigan, USA	**Hemiterpenes: Biosynthesis, functions, and potential as biofuels**
10:00 - 10:30:	**Warwick Hillier**	Australian National Univ., Canberra	**Engineering Photochemistry for Molecular Biofuels**
10:30 - 10:40:	**General Discussion.**		
10:40 - 11:00:	**Coffee Break.**		
Session 10:	**Metabolism and stress tolerance**		
Chair:	***Vaughan Hurry***	*University of Umeå, Sweden*	
11:00 - 11:30:	**Per Gardestrom**	Univ. Umeå, Sweden	**Mitochondrial contributions to photosynthesis and leaf senescence**
11:30 - 12:00:	**Harvey Millar**	Univ. Western Australia, Perth	**The leaf mitochondrial proteome and what it reveals about respiratory function in Arabidopsis**
12:00 - 12:30:	**Manuela Chaves**	Technical Univ. of Lisbon, Portugal.	**Effects of drought stress on photosynthesis and sugar metabolism**
12:30 - 12:40:	**General Discussion.**		
12:40 - 14:00:	**Lunch and Poster Viewing.**		
Session 11:	**'Omics approaches to future crop improvements**		
Chair:	***Jim Whelan***	*Univ. Western Australia, Perth*	
14:00 - 14:30:	**Robert Furbank**	CSIRO Plant Industry, Canberra	**Photosynthesis and food security: the need for a second Green Revolution**
14:30 - 15:00:	**Rob Last**	Michigan State Univ., East Lansing, USA	**Grid Genetics: Large Scale Reverse Genetic Approaches to Understanding Chloroplast Function**
15:00 - 15:20:	**Ian Small**	Univ. Western Australia, Perth	**Combining 'omics data for a systems level picture of energy metabolism in plants**
15:20 - 15:30:	**General Discussion.**		
15:30 - 16:00:	**Coffee Break.**		
Conference Conclusion and Summary			
16:00 - 16:15	**TBA**		