Proceedings of the Australian Society of Sugar Cane Technologists

2014 GOLD COAST 36th Conference
THIRTY-SIXTH CONFERENCE
GOLD COAST, 2014

PROGRAM
The Official Opening, Annual General Meeting and all Technical Sessions of the Conference will be held at Jupiters Gold Coast (JGC), Gold Coast Hwy, Broadbeach including the Poster Papers. The Industry Equipment Exhibition will be located within the JGC.

TUESDAY, 29 April 2014

Registration at Jupiters Gold Coast, Gold Coast Hwy, Broadbeach, from 7.30 am

MORNING SESSION – 9.00 am

Chairman: Dr GA Kent

WELCOME AND OFFICIAL OPENING

Councillor Donna Gates
Deputy Mayor, City of Gold Coast

KEYNOTE SPEAKER

Mr Mark Pesce
Honorary Associate, Digital Cultures Program, University of Sydney

9.15–9.30 President’s address
Dr GA Kent

9.30–10.30 Keynote address:
Mr Mark Pesce, Digital Cultures Program, University of Sydney: ‘Sweet sharing: How knowledge sharing is transforming business practice, and has done so for 10 000 years’.

10.30–11.00 Official opening of Industry Equipment Exhibition and morning tea

GENERAL SESSION
Chairman: Dr Michael O’Shea

11.00–11.30 Guest Speaker:
Dr Roslyn Prinsley, National Maths and Science Education and Industry Adviser, Office of the Chief Scientist: ‘Keys to success – STEM skills, collaboration and innovation.’

11.30–12.00 Invited speaker:
Mr Neil Fisher, Chief Executive Officer, Sugar Research Australia: ‘The future strategic direction of SRA.’

Paper 12.00–12.30 Review of productivity trends in the Herbert sugarcane growing region, by AL Garside, LP DiBella, M Sefton, AW Wood .... 1–11

12.30–1.30 Lunch
AFTERNOON SESSION–1.30 pm

GENERAL SESSION
Chairman: Dr Michael O’Shea

Paper 1.30–2.00  Addressing factory needs in cane variety selection, by GA Kent, R Parfitt, A Jensen ................................................................. 12–22

Paper 2.00–2.30  Adoption of the web-based sugarcane variety decision support program, QCANESelect™, by G Plunkett, R Fletcher, BJ Croft, G Piperidis, MC Cox ...................................................... 23–30

Paper 2.30–3.00  Using industry data to improve productivity through better variety recommendations, by MC Cox, X Wei, JK Stringer, BJ Croft, L Di Bella, G Lerch .................................................. 31–43

Poster 3.00–3.05  What caused the high fibre cane? by LJ Watson .......................... 44

3.00–3.30  Afternoon tea

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AGRICULTURE SESSION
Chairman: Peter McGuire

Paper 3.30–4.00  Effects of the application of mill mud/mud ash on soil properties and available soil nitrogen and phosphorus, by P Moody, B Schroeder, G Pu, J Panitz.......................................................... 45–52

Paper 4.00–4.30  Identifying climate variables having the greatest influence on sugarcane yields in the Tully mill area, by DM Skocaj, YL Everingham ................................................................. 53–61


Poster 5.00–5.05  Simulating sugarcane yield response to increased CO₂ concentrations, by Y Everingham, J Sexton, G Inman-Bamber, C Stokes ......................................................... 71

MANUFACTURING SESSION
Chairman: Bruce Tyson

Paper 3.30–4.00  A review of training in cane sugar technology, by GRE Lionnet, JP Mathiot ........................................................................................................ 280–287

Paper 4.00–4.30  Review and future options for computer modelling in the sugar industry, by F Plaza, GA Kent, DW Rackemann, DW Stephens ......................................................... 288–297

Paper 4.30–5.00  Application of national WHS legislation in relation to the design, inspection and maintenance of pressure equipment, by T O’Sullivan .................................................. 298–308

Poster 5.00–5.05  Chemical characterisation of sugar mill by-products, by Z Ostatek-Boczynski, E Keeffe, L Donnan, M O’Shea, P Joyce 309

5.00–6.00  Happy hour with the IEE
WEDNESDAY, 30 APRIL 2014

MORNING SESSION – 8.00 am

AGRICULTURE SESSION
Chairman: Dr Anthony Young

Paper 8.00–8.30 Selecting sugarcane varieties with higher transpiration efficiency, by P Jackson, J Basnayake, G Inman-Bamber, P Lakshmanan ................................................................. 72–81

Paper 8.30–9.00 Detailed trait characterisation is needed for simulation of cultivar responses to water stress, by J Sexton, NG Inman-Bamber, Y Everingham, J Basnayake, P Lakshmanan, P Jackson ................................................................. 82–92

Paper 9.00–9.30 Validating water use and yield estimates derived from remote sensing and crop modelling for irrigated sugarcane in Mpumalanga, South Africa, by A Singels, C Jarmain, E Bastidas-Obando, FC Oliver, AL Paraskevopoulos .................. 93–102

Poster 9.30–9.35 The effect of delayed sugarcane planting due to fallow cropping in the Burdekin, by B Salter, M Hanks, S Bateman ............

AGRICULTURE SESSION (Concurrent)
Chairman: Peter McGuire

Posters 9.00–9.30 Weed competition trial – NSW, by P McGuire ......................... 104
Screening herbicide combinations for effective sour grass management in the wet tropics cane growing region, by A Benson, G Holzberger, L Di Bella ................................. 105
Screening herbicide combinations for effective Navua sedge management in the Herbert cane growing region, by A Benson, G Holzberger, L Di Bella ................................. 106
Spot spraying to manage perennial grass species (guinea grass and para grass) without diuron in ratoon sugarcane crops, by A Benson, G Holzberger, L Di Bella ................................. 107
Dual herbicide spray application technology in sugar cane, by A Blair, J Robertson ................................. 108
Microwave method for the determination of nitric acid extractable potassium in sugarcane soils, by Peimaneh Lee-Steere, Zofia Ostatek-Boczynski, Priya Joyce ................................. 109

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Chairman: Kent Selby

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Paper 8.30–9.00 Experiences with control of evaporators using extensive vapour bleeding, by B Burke, B Tyson, R Broadfoot ...................... 320–330
Paper 9.00–9.30 Capital cost model for Robert evaporators, by OP Thaval, R Broadfoot .................................................. 331–342
Poster 9.30–9.35 Experimental investigations with single tube evaporator rig, by OP Thaval, R Broadfoot .................................................. 343
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Chairman: Peter Bressow

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<td>Paper Energy model for diesel hydraulic cane haul locomotives, by R Situ, S Grech, LG Santarossa</td>
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<td>Posters Fan performance test chambers, by C Burgess</td>
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<td>Material selection for boiler ID fans after wet scrubbers, by C Burgess</td>
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Chairman: Richard Beattie

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Chairman: Neil Sichter

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<td>Paper Performance evaluation of a fixed element crystalliser, by J Wallace, RM Stobie</td>
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<td>Paper Design considerations of platforms for trapezoidal frame pendulum style fugals, by DJ Henkel, MT Makola, WB McDaniel</td>
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**MANUFACTURING SESSION (Concurrent)**  
Chairman: Clyde Garson

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<td>Paper Typical cane rail duty requirements for Willison couplings fitted to 'big bins', by J Thomas, LG Santarossa, S Anderson</td>
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Paper 11.00–11.30 Practical determination of cane wagon derailment forces for the Australian sugar industry, by LG Santarossa, GA Kent .......... 411–421

Paper 11.30–12.00 Summarising and reporting sugarcane locomotive run statistics from TOTools and GPS data, by AR Kono, GA Kent, TS Sahama ......................................................... 422–436

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Chairman: Neil Halpin

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Posters 1.30–2.00 The effect of changing from a monoclonal to a multi-clone farming system, by G Park ..................................................... 177

Cytogenetics: adding value to sugarcane breeding, by N Piperidis, K Aitken, G Piperidis .......................................................... 178

The use of introgression breeding to enhance the genetic potential of sugarcane germplasm in South Africa, by T Horsley, M Zhou ................................................................. 179

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THURSDAY, 1 MAY 2014

MORNING SESSION–8.00 am

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Chairman: Dr Mike Cox

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Paper 9.00–9.30 Use of oospores as inoculum for early-stage resistance screening for downy mildew and pachymetra root rot, by RC Magarey, JI Bull, F Atkin, V Dunne, R Pendrigh, K Sventek, L Tom ... 254–262
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Chairman: Terry Drury

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Paper 8.30–9.00 Development of an alternate bagasse reclaimmer chain, by WS Seri, PF Britton, LG Santarossa ........................................ 493–505
Paper 9.00–9.30 Bagasse dryer design using multi-scale compartment models, by J May, M Sheehan, O Ajayi, T Hickey ........................................ 506–515
Poster 9.30–9.35 Implementing NIR spectroscopic systems for determining the nutrient content of mill by-products: validation trials, by EC Keeffe, ZA Ostatek-Boczynski, LJ Donnan, MG O’Shea ...... 516

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Chairman: Dr Peter Samson

Paper 10.00–10.30 Comparison of methods to assess suckering in the SRA northern variety improvement program, by A Bryan, F Atkin, J Stringer, X Wei .......................................................... 264–270
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Chairman: Clyde Garson

Paper 10.00–10.30 Milling innovations at Rocky Point, by TJ Drury, OP Thaval, GA Kent ................................................................. 517–528

Paper 10.30–11.00 Spent caustic recycle at Farleigh mill, by R Lavarack, B Stevenson, S Schneider, B Bampton ............................. 529–536

11.00–11.30 Closing Ceremony

11.30–12.00 Lunch

12.00–4.00 Manufacturing and Agriculture field tours