



# **SHEEP**CRC

## **FINAL CONFERENCE**

19–20 MARCH 2019  
DUBBO REGIONAL THEATRE & CONVENTION CENTRE

## **PROGRAM**

*Celebrating the transformation*





**SHEEP CRC**

SHEEP CRC LTD  
ABN: 12 125 726 847  
CJ Hawkins Homestead  
University of New England  
Armidale NSW 2351

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Australian Government  
Department of Industry and Science

**Business**  
Cooperative Research  
Centres Programme

# Welcome

The Sheep CRC's Final Conference marks the last public event for the CRC before it winds up at the end of June 2019.

The program has been designed to provide a summary of the technical advances that the CRC has helped to develop for all sectors of the Australian sheep industry. Delegates are urged to consider not just how individual products have contributed to a particular sector or specific application, but to also note the linkages that exist between many of the innovations.

The CRC's portfolio narrowed from 41 projects in CRC1 (2001–07), covering a wide range of biological and commercial aspects, to 18 projects for CRC2 (2007–14) largely focused around the Information Nucleus, to just three well-integrated projects in CRC3 (2014–19). This increasing focus over time on developing integrated practical solutions for end-users, has been important. It is a clear demonstration of an increasing level of collaboration and an understanding of the need to make the possible practical.

While the presentations are clustered around topics such as meat science, genetics, wool quality and on-farm management, the links between topics should be evident. For example, genetics and genomics research runs through meat science and on-farm management. Likewise, sheep wellbeing and sustainability indexes feed into the meat and wool supply chains, while postgraduate students were embedded in practically all activities and added significantly to the collaboration. The web-based apps, ASKBILL and RamSelect, were also designed to work hand-in-hand to provide integrated solutions and help to make the possible practical.

The Final Conference is an opportunity to celebrate collaboration that has been stimulating, enjoyable and effective. Everybody attending the conference, and many who couldn't make it, have been part of the CRC team—contributing ideas, advice and resources.

The conference is also part of our obligation to report back to the Commonwealth Government, as the architect of the CRC Program and our principal investor over the last 19 years. Evidence from our benefit:cost analyses shows that the investment by the Commonwealth, and all other stakeholders, has been valuable in delivering 3.0 times the combined costs of R&D investment plus end-user utilisation. But the success of the investment should also be measured by the energy and enthusiasm of presenters and delegates at the conference—even at a time when many sheep producing areas are faced with very serious drought conditions.

I am confident that the Final Conference will be well worth the investment for all those attending.

**James Rowe**  
CEO, Sheep CRC

## Conference MCs

The Final Conference will be kept moving and on time by Graham Gardner and Alex Ball. Both Graham and Alex have close ties with the CRC through contributing to the research portfolio and actively mentoring postgraduate students. We are most grateful to Graham and Alex for taking on this important role.

**19 March — Graham Gardner**  
**20 March — Alex Ball**

**12:00–1:00pm Lunch**

**1:00pm Official opening of the Sheep CRC Final Conference Ian Sinclair**

**Synopsis:** Establishing the CRC, creating a culture of productive collaboration and guiding the CRC to a second term were the key challenges when the CRC commenced in 2001. The CRC's 2003 strategic plan described a mission to ensure that the Australian sheep industry has the technology and know-how to deliver, in a profitable and sustainable manner, the products that are highly desired by domestic and export customers. The CRC has gone on to fulfill this important goal.



**IAN SINCLAIR**

**Sheep CRC Chair 2001–2007**

The Right Honourable Ian Sinclair AC served as Leader and Deputy Leader of the National Party for nearly 19 years, and held a number of senior portfolios including Social Services, Primary Industry, Shipping and Transport, Communications, Defence and Leader of the House. In 2001, Mr Sinclair was made a Companion of the Order of Australia, for distinguished service to the Australian Parliament and to the community, particularly through promoting the expansion of opportunities for those in rural, regional and remote areas of Australia. Mr Sinclair was chair of the Sheep CRC during its formation and first term from 2001 to 2007.

**Introduction—19 years of innovation**

**James Rowe**

**Synopsis:** The introduction to the conference provides an overview of the key CRC activities over the last 19 years identifying the integrated nature of the CRC's research, development and adoption. The linkages between the different aspects of sheep production has been a hallmark of the CRC.



**JAMES ROWE**

**Sheep CRC CEO**

James Rowe has been CEO of the Sheep CRC from its inception in 2001. Professor Rowe holds a PhD in animal nutrition. His research on sheep and cattle production has resulted in a number of new products and innovative feeding systems. He has worked in the public sector with international organisations, large private sector companies and at the University of New England.

**Importance of the CRC for industry**

**Roger Fletcher**

**Synopsis:** The need for a CRC and a coordinated approach to sheep industry R&D was identified by AMPC and Fletcher International at the outset of the Sheep CRC. Meat quality has always been a top priority at Fletcher International. Working with the CRC, Fletcher International installed the first state-of-the-art mid-voltage electrical stimulation system and has continued at the forefront of using technology and information to achieve the best possible meat quality and finding the right customer for every cut.



**ROGER FLETCHER**

**Founder, Fletcher International Exports Pty Ltd**

Roger Fletcher OAM is founder and proprietor of Fletcher International. Fletcher International's production is sheep meat, wooltops and various by-products, which are exported to more than 95 countries. With plants in Dubbo, NSW, and Albany, WA, the company can process up to 90,000 sheep per week, and has over 1,300 employees. Roger Fletcher was a member of the CRC Board from 2002–2008 and Fletcher International was a significant Participant from 2002 to 2007. Roger has served on the Boards of AMPC, AWI and many industry organisations, as well as being a patron of the Westhaven Industries, the driving force behind the Get Real program.

1:30pm

### Meating the market

#### Moving to a quality-based value chain

David Pethick

**Synopsis:** The need for a consumer focus to ensure that lamb is well-placed in a competitive meat market has driven the move to develop a quality-based value chain. Research has focused on understanding all aspects of lean meat yield and eating quality to deliver solutions to industry and a predictable product for consumers.



**DAVID PETHICK**

**Sheep CRC Program Leader—Quality-based sheep meat value chains  
Murdoch University**

Professor Dave Pethick holds a PhD qualification from Cambridge University (UK) and an undergraduate degree in Agricultural Science from the University of Adelaide. His research in fundamental and applied meat science in beef, lamb and sheep meats has made a major contribution to the understanding of meat quality and its management. He is head of Production Animal Research at Murdoch University and was previously Program Manager for Meat Science in the Beef CRC.

#### Developments in processing & retailing of lamb

David Hopkins

**Synopsis:** The CRC's work on electrical stimulation to ensure tenderness, strategies for dealing with larger carcasses and the understanding of nutritional value of lamb all contribute to the consumer focus and the importance of consistency in delivering a quality product.



**DAVID HOPKINS**

**Senior Principal Research Scientist, NSW DPI**

David Hopkins has two degrees from the University of Melbourne and completed his PhD at the University of New England focusing on biochemical mechanisms responsible for tenderization in meat. David is currently an Editorial Board member of *Recent Patents on Food, Nutrition & Agriculture* and the Editor-in-Chief of *Meat Science*. He has authored more than 500 scientific papers (including 20 review papers), 18 book chapters and 140 extension/education publications.

#### Involving the whole supply chain

Alex Ball

**Synopsis:** The National Lamb Supply Chain Group initiated by the CRC and MLA has played a major role in integrating the CRC research with expertise from all sectors of the supply chain. The collaboration arising from this integrated approach has underpinned the uptake of many technical advances.



**ALEX BALL**

**Consultant, Rural Analytics**

Alex was employed as CEO and company secretary of Herefords Australia before establishing his private consultancy company in 2018. Previously, he was employed with MLA as National Manager for Sheep Genetics, Sheep and Southern R&D, Southern Production and Eating Quality and Lean Meat Yield R&D and then as General Manager Livestock Productivity that encompassed work on genetics, objective carcase measurement, and Meat Standards Australia (MSA) Optimisation and Index. He has a wide range of skills in RD&E program management. He also produces fine wool and beef cattle on his own grazing property in the New England area of NSW.



### Transformation for processors

Mark Inglis

**Synopsis:** The vision for branding lamb products, based on objective quality grades, and providing accurate producer feedback has moved closer to reality.



**MARK INGLIS**

**Farm Assurance and Supply Chain Manager, JBS Australia**

Mark Inglis manages both the lamb and beef farm assurance programs, oversees the MSA component of the JBS Southern business, coordinates and implements R&D programs specific to JBS lamb and beef, and runs producer educational programs across both the beef and lamb supply chains. Prior to joining JBS Australia, Mark worked for MLA/MSA with producers, stock agents, saleyards, feedlots and livestock buyers to gain a greater understanding of the pathways into both the cattle and sheep MSA programs.

2:30pm

### Wool — going beyond touch & feel

#### Understanding next-to-skin comfort

David Tester

**Synopsis:** Development of measurement systems for the key attributes that consumers demand in lightweight knitwear, next-to-skin comfort and soft handle, has created an objective quality assurance system for product development and transactions through the wool supply chain.



**DAVID TESTER**

**Former Sheep CRC Program Leader—Next generation wool quality**

David has spent 35 years in wool research and wool textile manufacturing. Since the end of the Sheep CRC Wool Program, which he lead for five years, David has used his experience and contacts in the wool supply chain to provide consulting services to develop wool products and supply chains for companies in Europe and the USA. David was Senior Research Scientist with the CSIRO Division of Wool Technology for 17 years.

#### Wool comfort for mothers and babies

Philip Attard

**Synopsis:** An example of the commercial application of the new quality assurance systems for lightweight knitwear has been the development of a line of products for mothers and babies. Where comfort is of paramount importance the QA systems have ensured no surprises in commercial manufacturing.



**PHILIP ATTARD**

**Gostwyck Station, Uralla NSW**

Philip Attard spent 33 years in the information technology industry where he held positions in general management, strategic planning, sales, marketing and business development in Asia Pacific and Australia. Philip is now focused on developing the family businesses through increasing farm productivity, direct marketing of the Gostwyck Merino clip, and establishing Henry and Grace, a babywear and maternity wear brand. Philip is Chairman of Practical Systems, a software developer that specialises in agricultural and SMSF software and is the managing partner in the family companies.

3:00pm–4:00pm

### Afternoon tea

4:00pm

### Making the possible practical—the on-farm tools

#### From WormBoss to ParaBoss

Deb Maxwell

**Synopsis:** The development of WormBoss from concept to reality set the template for LiceBoss and FlyBoss. Soon to follow was the amalgamation of all three products under the ParaBoss banner. The integrated ParaBoss package is supported by a network of specialists in the field of parasitology and the use of the online information system continues to grow as it is used by all sectors of the industry.



**DEB MAXWELL**

**Executive Officer, ParaBoss**

Deb Maxwell is a registered veterinarian and secondary teacher with postgraduate qualifications in agricultural extension. Deb joined Sheep CRC 1 as the Communication and Extension Program Leader and continued in Sheep CRC II doing contract work on WormBoss, FlyBoss and LiceBoss. In 2014 ParaBoss was formed to manage these programs beyond the CRC and Deb took on the role of ParaBoss Operations Manager. In 2018 she took over the role of Executive Officer from Lewis Kahn. Deb has also run a superfine Merino stud for 22 years giving her valuable practical experience and knowledge.

#### From CRC PhD to industry leader

Justin Bailey

**Synopsis:** The industry focus of the CRC postgraduate training program, that includes a structured approach to professional development, was a good launching pad for a career at the top level in the veterinary pharmaceuticals industry.



**JUSTIN BAILEY**

**University of New England, Armidale NSW**

Justin Bailey is a large animal veterinarian who practiced for seven years in Australia and overseas before returning to manage the family property. On relocating to Armidale in 2003 he took up a position with a contract research organisation and in 2005 he commenced PhD studies at the University of New England as part of the Sheep CRC's postgraduate training program. On completion he joined Novartis Animal Health where he played a role in launching what was then the first new class of sheep drench in 30 years. He has recently returned to a new role at the University of New England.

4:30pm

### Precision Sheep Management

#### From e-sheep to apps

Kevin Atkins

**Synopsis:** Understanding the extent of within-flock variation highlighted the opportunity to use this information for flock improvement and better targeting treatment for specific sectors of the flock. The development of automated measurement has involved challenges with technology and data capture. Sophisticated web-based apps now take care of many of these problems.



**KD (KEVIN) ATKINS**

**Research Consultant**

KD Atkins was Principal Research Scientist at Orange Agricultural Institute, NSW Department of Primary Industries (retired July 2009). KD was a Program Manager for the Sheep CRC (2002–2008) and continued association as a consulting researcher within the Sheep CRC to the present. He has nearly 50 years research experience in the genetic improvement and precision management of sheep. He is the author of 60 scientific journal papers, 100 science conference proceedings and 150 technical and industry publications. He has also developed numerous computer packages for on-farm data capture, data processing and analysis, targeting advice to specific breeding programs and decision support software.

### eID—transforming the stud

Mark Mortimer

**Synopsis:** Mastering the eID technology and developing new applications for its use has turned routine data collection into an interesting and exciting job. With data accuracy taken care of, a number of new opportunities are created—among them embracing the genomic revolution.



#### MARK MORTIMER

##### Centre Plus, Tullamore

Mark is a third generation farmer from Tullamore in Central NSW. Mark has a degree in Farm Business Management from Sydney University. He has been on the Advisory Committee Sheep Genetics, Technical Committee Sheep Genetics, National Livestock Genetics Consortium taskforce MLA, MerinoLink Merino Lifetime Productivity trial steering committee, and the Macquarie Merino Lifetime Productivity trial steering committee. Mark manages the Centre Plus Central Nucleus where his key roles include data capture with electronic tags and the storage, management and analysis of the data. This work has developed a strong interest in genetics and the technologies that go hand in hand with sheep breeding programs.

### Monitoring and sensors—where next?

Amanda Doughty

**Synopsis:** The rapid development of sophisticated electronic measurement systems for understanding animal behavior and wellbeing, opens up new opportunities for livestock management. The experience with dairy and beef cattle provides a glimpse into future opportunities for the sheep industry.



#### AMANDA DOUGHTY

##### Research & Development Leader ANZ Region, Allflex Australia

Amanda Doughty works as part of Allflex's broader Animal Monitoring Research, Development and Application team developing animal monitoring technologies and using these innovations to improve the health and welfare of livestock. Prior to this Amanda was investigating novel and automated methods of assessing the health and welfare of extensively kept sheep as part of a joint Sheep CRC/University of New England Post-Doctoral Research Fellowship. Amanda studied Zoology at Massey University and completed a Master of Animal Studies at the University of Queensland. This was followed by a PhD with the CSIRO and the University of New England.

5:15pm

### Celebrating success — our history in print

### Innovation—don't stop

Peter Trefort

**Synopsis:** Running the first sheep feedlot with walk-over weighing, auto-drafting and abattoir hook tracking in 2005 tested the technology and put Peter Trefort on a pathway of continuous innovation through the Sheep CRC. Striving to utilise innovation at a practical level is a powerful way to stimulate further research and stay at the forefront of new developments.



#### PETER TREFORT

##### Director, Sheep CRC 2008–2019

Peter Trefort manages his family's property at Narrogin, Western Australia. He has over 50 years' experience in sheep and cattle production as well as management across the meat supply chain. He has worked extensively developing on-farm and processing R&D strategy with the Department of Agriculture and Food (WA), University of Western Australia and Murdoch University. Peter has been successful in developing and commercialising an innovative new range of lamb cuts to extend markets both domestically and internationally. In 2017, Peter was inducted into the WA Agriculture Hall of Fame for contributions to agricultural education.



# PROGRAM

## Tuesday, 19 March 2019

### How well did the Sheep CRC perform?

Tony Peacock

**Synopsis:** The Sheep CRC is one of a number of CRCs that have successfully run for three terms and delivered a range of significant outcomes for industry. An analysis of the Sheep CRC and some indications of future developments for the CRC Programme will stimulate discussion amongst CRC Participants about new opportunities.



#### TONY PEACOCK

##### CEO, Cooperative Research Centres Association

Tony Peacock was CEO of a successful CRC and Managing Director of one of Australia's Rural R&D Corporations. In 2010 he was awarded the Australian Government Eureka Prize for Promoting the Public Understanding of Science. He holds a Bachelor's degree in agriculture and a PhD in veterinary science from the University of Sydney and has worked at the universities of Melbourne and Saskatchewan, served on the Board of several start-up biotechnology companies, is a Fellow of the Australian Institute of Company Directors and an Adjunct Professor at the University of Canberra. Tony was awarded the 2014 Monash University Churchill Fellowship to investigate university-business relationships. Tony was recently made a Fellow of the Australian Academy of Technology and Engineering.

### The book—telling our story

John Keniry

**Synopsis:** Identifying Sheep CRC highlights from the perspective of a Chair (2007–2014), and a passionate sheep producer, draws on inside information. The pre-launch of the book, *Sheep CRC — The Story 2000–2019*, gives formal notice that this vision is on track to becoming a reality.



#### JOHN KENIRY

##### Sheep CRC Chair 2007–2014

Dr John Keniry AM has served as Chairman or Director of numerous agribusiness companies in Australia and New Zealand and on the Boards of Government organisations at State and Federal levels. He is a Fellow of The Australian Institute of Company Directors, Fellow of the Royal Australian Chemical Institute, Fellow of the Australian Academy of Technological Sciences and Engineering and former member of the Prime Minister's Science, Engineering and Innovation Council, and of the Board of Innovation Australia.

6:00pm–8:30pm    Drinks & Dinner

8:00am

### Foundations of future innovation — digital forecasting

#### What can ASKBILL do now?

Lewis Kahn

**Synopsis:** The evolution of ASKBILL is an interesting story. At each stage of its development it continues to surpass expectations. Key capabilities of the program continue to expand and demonstrate new features as well as future opportunities.



#### LEWIS KAHN

**Sheep CRC Program Leader—Enhanced sheep wellbeing and productivity,  
University of New England**

Lewis Kahn holds a Bachelor's degree in Rural Science and PhD in Animal Sciences from the University of New England (UNE). His research interests include control of internal parasites of sheep and grazing management strategies. He was formerly Executive Officer with ParaBoss, the national authority for ruminant livestock parasite management and principal of a consulting business that worked with producers to improve on-farm management. He is the current Associate Dean Research at UNE and Managing Director UNE SMART Farms and has a commitment to ensuring that research has industry impact.

#### ASKBILL—making a difference on the farm

Andrew Burgess

**Synopsis:** As an astute user of ASKBILL, there have been important management decisions helped by ASKBILL forecasts. Confidence in ASKBILL forecasts takes time to grow and builds through experience. Once ASKBILL proves itself in one area it gets a chance to prove itself in other areas.



#### ANDREW BURGESS

**Ruby Hills, Walcha NSW**

Andrew Burgess manages a family grazing operation at Walcha on the Northern Tablelands of NSW. Due to the limitations being imposed by a recent rapid decline in rainfall, the business is now mostly sheep, including a self-replacing superfine Merino flock and a crossbred lamb breeding operation. He served on the Sheep CRC Kirby Nucleus Flock Management Committee at Armidale and the Sheep CRC Project Research & Review Committee. He has a keen interest in promoting the practical outcomes of the CRC's research.

#### How accurate are the weather forecasts?

Johan Boshoff

**Synopsis:** ASKBILL forecasts and predictions are highly dependent on the accuracy of the Bureau of Meteorology's information. This presentation examines how well the predictions of the downscaled (5x5km grid) forecasts for rainfall align with actual records in a number of areas. The results are interesting.



#### JOHAN BOSHOFF

**Manager, Livestock apps, University of New England**

Johan Boshoff is leading the UNE CASI team that is responsible for the development and maintenance of ASKBILL, RamSelect and SheepDNA. CASI is UNE's data transformation hub focusing on turning research into innovative solutions. Johan has more than 25 years of software engineering experience specializing in business and research focused solutions. He plays an active technical role in the development process, architecting the solutions delivered. Prior to his current role he managed his own software development business and managed a team of eResearch Analysts for Intersect Australia.

### ASKBILL's role in managing natural capital

Francisco Ascui

**Synopsis:** Determining the capital value of natural resources used in farming systems is becoming an important consideration for banks and landowners. This presentation summarises some of the key parameters influencing the value of natural capital in sheep production systems and outlines how ASKBILL may assist in monitoring and managing these assets.



**FRANCISCO ASCUI**

**Associate Professor, University of Edinburgh**

Dr Francisco Ascui is an international expert in environmental accounting and finance, with 20 years' experience across business, government and academia. He is currently an Associate Professor at the University of Edinburgh Business School, an Honorary Research Associate at the University of Oxford, and an independent consultant. He has a PhD in carbon accounting, an MBA and an MSc in environmental management. In recent years he has pioneered a new approach to evaluating natural capital credit risk in agricultural lending, which aims to encourage lenders to reward sustainability best practice with a lower cost of capital.

9:00am

### Changing the conversation

#### If people don't know—then it didn't happen

Michael Thomson

**Synopsis:** Effective communication with end-users and stakeholders is just as important as the research that delivers new technologies. The Sheep CRC's approach has been to develop communication strategies and then implement these with a combination of traditional print and radio initiatives, supported increasingly by social media and video clips.



**MICHAEL THOMSON**

**Media Specialist, Central Queensland University**

Michael oversees the communications and media activities of the Sheep CRC. Prior to joining CQUniversity in Rockhampton, he was a Senior Consultant for Cox Inall Communications, leading projects for clients including the Beef Australia expo, Meat & Livestock Australia, Woolworths, Grains Research & Development Corporation, the Livestock Biosecurity Network, the Australian Animal Welfare Strategy, and RIRDC's National Weeds Research Program. He has also worked for NSW's The Land newspaper, Northern Star in Lismore, and Queensland Country Life. In his journalism career he progressed to roles including Fairfax Agricultural Media's national political reporter based at Parliament House, Canberra, and national online editor for Fairfax's FarmOnline group of news sites.

#### Using CRC communication and social media

Rob Egerton-Warburton

**Synopsis:** Proactive use of social media creates a network for gathering, filtering and disseminating information. Exploring the impact that social media can have for producers searching for innovation will challenge all delegates.



**ROB EGERTON-WARBURTON**

**Kojonup, WA**

Rob Egerton-Warburton farms 4000ha in Kojonup, WA, producing sheep for wool and meat, as well as mixed grain. An adjunct business involves wildflower seed production. Rob has always had a passion for farming, particularly for the sheep industry, and he actively promotes farming beyond the farm gate. He has brought his knowledge of farming to numerous boards and committees and is regularly asked to speak at meetings and in the media on all kinds of farming related topics. He is currently on the Board of Merinotech, a Kojonup-based Merino genetic company. In addition, Rob chaired the WA Sheep Industry Leadership Council for four years and was a member of the Board of the Sheep CRC for seven years.

**9:30am**

**Empowering our future researchers**

**Postgraduates—preparing the future leaders**

**Graham Gardner**

**Synopsis:** The CRC's postgraduate development program is set to have a long term impact on the sheep industry. Since 2001, 82 postgraduate students have been embedded in Sheep CRC research programs and a high proportion of the graduates are already contributing to research and education or are utilising new technology in the private sector.



**GRAHAM GARDNER**

**Associate Professor, Murdoch University**

Graham Gardner has coordinated the Sheep CRC's postgraduate training program since its inception in 2001. Graham holds a PhD from Murdoch University and, after a post-doctoral position at UNE, has continued his career in meat science, nutrition and animal production at Murdoch University. Graham leads the Rural R&D for Profit program 'Advanced Livestock Measurement Technologies'.

**Undergraduates—teaching the essentials**

**Emma Doyle**

**Synopsis:** The novel 'hub-and-spoke' model for delivering specialist sheep industry units at all Australian universities teaching agriculture, has been an outstanding initiative. It was developed by the Sheep CRC and Australian Wool Education Trust (AWET) between 2001 and 2007. AWET and UNE have continued the initiative ensuring that sheep industry expertise is fostered amongst the undergraduate students.



**EMMA DOYLE**

**Sheep & Wool Lecturer, University of New England**

Dr Emma Doyle has been lecturing at UNE for the past 12 years as Sheep and Wool lecturer. The specialised sheep and wool units were developed by the Sheep CRC and are now licensed to AWET. Emma is carrying out a range of research projects investigating the reproductive advantage of shorter shearing intervals. She is also involved in parasitological work including Barbevax vaccine and liverfluke detection, as well as goat drench efficacy and pharmacokinetics.

**10:00am–11:00am Morning Tea**

**10:30am–10:45am OXLEY ROOM**

**LIVE DEMONSTRATION OF THE ASKBILL SITE**

Delegates are welcome to attend a live demonstration of the ASKBILL site in the Oxley Room. Limited seats available.

11:00am

### From genetics to genomics

#### Transforming genetic selection

Julius van der Werf

**Synopsis:** The Sheep CRC has taken the Australian sheep industry to the position of world leaders in the use of genomic technologies in livestock production. Improving the accuracy of estimated genetic merit, and expanding selection options to include new traits, has set up the industry for faster, better-targeted genetic gain.



#### JULIUS VAN DER WERF

**Sheep CRC Program Leader—Faster, affordable genetic gain  
University of New England**

Professor Julius van der Werf holds a PhD in Animal Breeding from Wageningen University in the Netherlands. After appointments as Assistant Professor in Wageningen, and Senior Researcher in dairy cattle breeding at the National Institute for Animal Science and Health, he moved to the University of New England in 1997, first as Senior Lecturer and now as Professor in Animal Breeding and Genetics. His expertise varies from genetic evaluation and breeding program design to analysis and use of genomic information. Julius has lead the Sheep CRC's genetics research since the start of the CRC in 2001.

#### New tools for a breeder in a hurry

Andrew Michael

**Synopsis:** For a breeder in a hurry, the genomic technologies have created new opportunities. From early use of genomics to identify elite animals for JIVET programs, to the routine testing in commercial ram breeding, there has been dramatic progress and change on farm.



#### ANDREW MICHAEL

**Leachim Poll Merino Stud, Snowtown SA**

Andrew is a fourth generation farmer, working his 1500ha family farm at Snowtown, South Australia, as well as grazing land in the state's north-east pastoral area and in the south-east. He has built and operated a large scale sheepmeat and wool business including both Terminal and Maternal sheep. He has extensive experience in the use of breeding technologies in both the sheep and cattle industries incorporating all the latest leading edge animal breeding technologies available. Using these technologies and working with industry groups has assisted him to develop a highly productive business, breeding top performing sheep for quality red meat production, along with high value skins and wools on animals that do not require mulesing. Andrew is a member of the MLA Board.

#### DNA—where is it going?

Jason Lilly

**Synopsis:** Fundamental to the use of genomic technologies is the cost and sophistication of DNA testing. The development of new DNA analytical systems and the impact of these developments on costs is just part of the story. Information from the world's largest livestock genotyping company gives a glimpse of what the future might hold.



#### JASON LILLY

**Director, Neogen Australasia; Vice President, Neogen Corporation (USA)**

Jason is a 14-year employee of Neogen Corporation, a food security company based in Lansing, Michigan. Jason has a long-standing passion for genetics given his academic training prior to moving into agribusiness. Today, Jason oversees all aspects of Neogen's strategy and corporate development activities, including acquisitions, technology licensing and IP management. He also leads Agrigenomic business development, which included the acquisition of the AGL from University of Queensland in 2017, creating Neogen Australasia. Jason is the primary director of the company's Australian operation, based in Gatton, QLD. Jason holds an MBA from Michigan State University and a PhD in Genetics from the University of Wisconsin-Madison.



### Using genomics to make money

Sally Martin

**Synopsis:** Using genomic technologies in the supply chain between ram breeders and ram buyers is proving to be effective in creating new opportunities for improved genetic gain. The MerinoLink case study defines opportunities for genetic improvement in a commercial context.



#### SALLY MARTIN

##### Sheep Industry Consultant, Sally Martin Consulting Pty Ltd

Sally grew up on a grazing property on the Monaro, NSW. Sally studied Agricultural Science at University of Western Sydney Hawkesbury and has completed Postgraduate studies at University of New England and Sydney University focusing on Animal Breeding Management. She worked with NSW DPI for approximately 20 years and now runs her own consultancy business servicing commercial breeders, ram breeders and service providers across the sheep industry. Sally has recently been appointed to the Sheep Genetics Advisory Committee providing strategic direction for the continued development of the key Sheep Genetics programs of LAMBPLAN and MERINOSELECT.

12:00pm

### Simplifying ram selection

#### RamSelect training program and app

Lu Hogan

**Synopsis:** Identifying and buying rams to achieve defined breeding objectives is not easy. A successful industry training program was converted to a powerful web-based app that is helping many commercial sheep producers manage their genetic improvement programs with confidence.



#### LU HOGAN

##### Sheep CRC Industry Engagement and Training Coordinator

Lu Hogan holds a Bachelor of Agricultural Science from the University of Melbourne. She comes from a farming background and until 2002 was a wool, sheep and grain producer in the Riverina region of southern NSW. Lu has previously worked with CSIRO and the Victorian Department of Agriculture and was General Manager, Wool Production at AWI, responsible for on-farm research, development and innovation relating to animal health, welfare, genetics, genomics, wool harvesting, pastures, natural resource management, education and adoption of innovation within industry. Lu was employed as the Industry Engagement & Training Coordinator for the Sheep CRC in 2009.

#### Buying the right rams for increased profit

Stuart Warner

**Synopsis:** Genomic flock profiling and use of RamSelect to buy the right rams for specific breeding objectives has enabled accurately targeted genetic gain for commercial sheep production.



#### STUART WARNER

##### Merino Breeder, Beechworth, VIC

Stuart grew up on a sheep and beef property in North East Victoria. After completing his Agricultural Science degree at Melbourne University, Stuart joined Agriculture Victoria as a lamb extension officer where he also undertook his Masters degree in Agrifood Value Chain Management. In 2012, Stuart left the department for the land, putting into practice his experience by leasing his family farm with his wife, Katie. Their current business runs around 3500 sheep, and performance is underpinned by the objective use of genetic information which has most recently included the use of DNA Flock Profile technology.

12:30pm

### Life after the Sheep CRC

#### MLA's plans for post-CRC cooperation

**Mick Crowley**

**Synopsis:** Plans for using the CRC outputs and continuing the collaboration amongst current CRC Participants is an essential part of the post-CRC legacy.

#### MICK CROWLEY

##### General Manager, Producer Consultation and Adoption, Meat & Livestock Australia

Michael holds a Bachelor's Degree, Rural Science from the University of New England and a Graduate Certificate in Business Administration from QUT. His team is responsible for MLA's investments in adoption, R&D consultation, livestock genetics and MSA, working closely with producers and the red meat value chain to drive adoption of R&D. Michael joined MLA in 2009 where he has held positions of MSA Manager, International Business Manager (EU & Russia) and now GM Producer Consultation & Adoption. Prior to joining MLA, Michael held a number of commercial positions in the red meat supply chain including running his own business.



#### Capturing the next innovations

**Allan Piggott**

**Synopsis:** The importance of innovation for the sheep industry to achieve enhanced productivity and product quality is well understood. Harnessing the synergies of effective collaboration to create new opportunities is a challenge for the future.

#### ALLAN PIGGOTT

##### Primary Producer, Moorlands SA

Allan Piggott and his family farm 2300 hectares producing grain, prime lambs and rams for the prime lamb industry. Allan is a foundation member of the Australian White Suffolk Association and a foundation member of important biosecurity programs. The Illoura stud began performance recording in 1987 and has utilised the emerging technologies that have been developed by the Sheep CRC. He is currently a member of Livestock SA, chairman of the SA Sheep Industry Blueprint, and an executive councilor of the Royal Adelaide Show and immediate past President of Sheep Producers Australia.



#### Closing comments

**Ian Wilton**

**Synopsis:** The productive collaboration and investment by all sectors of the sheep industry has delivered numerous new products that will continue to have a sustained impact on the industry for many years to come. Lessons learned during the Sheep CRC will, hopefully, be useful in developing future initiatives and collaborative activities.

#### IAN WILTON

##### Sheep CRC Chair

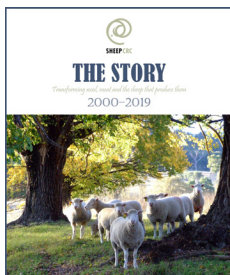
Ian Wilton has extensive experience as a non-executive director and senior agribusiness executive. He currently serves on the Board of Elders Ltd and is Chair of that company's Audit Committee. He is also a non-executive director of One Harvest Holdings Pty Ltd. He has undertaken senior management roles in a number of companies including President and CEO of GrainCorp Malt and CFO and interim CEO of Ridley Corporation Ltd. Ian is a CPA with considerable corporate, finance oversight and governance experience.



1:00pm–2:00pm

### Lunch

## TRADE DISPLAYS



### Sheep CRC: The Story

'Sheep CRC: The Story' records the people, the politics and the powerful new technologies that have changed the face of Australian sheep production forever. All conference delegates will receive a copy of the book when it is complete. Come and get a glimpse of the book and order additional copies.



### ASKBILL

ASKBILL is web-based software that complements your grazing knowledge with detailed data about your livestock and pastures. ASKBILL predicts opportunities and threats to your individual business from weather, pests and disease—the critical information needed for making more precise farming decisions, protecting the wellbeing of your flock and maximising productivity.



### RamSelect

RamSelect is a web-based tool designed to simplify the use of Australian Sheep Breeding Values (ASBVs) to identify the right genetics for your flock. Use RamSelect to:

- Find the best rams for your flock
- Manage your flock's genetic data
- Market your sale rams to buyers



### SheepDNA

SheepDNA tests drive genetic gain in the sheep industry by increasing the accuracy of ASBVs, providing accurate pedigree and genetic benchmarking of commercial flocks. This service streamlines the ordering and handling of test samples.








### Neogen Australasia

Neogen® offers genomics services worldwide that deliver innovative, affordable DNA testing for the discovery and commercial application of genomic advances that enhance the safety and abundance of life.

## TRADE DISPLAYS

	<p><b>Gallagher</b></p> <p>Gallagher's range of Touch Screen Weigh Scales and EID Readers will be on display along with some fencing products (energizers). The Gallagher team will also be available to advise on the right system for producer's needs whether it is weighing and EID or electric fencing.</p>
	<p><b>Sapien Technology</b></p> <p>Sapien Technology is a trusted technology partner providing individual animal management software and hardware solutions across the supply chain. Sapien customers make better decisions and run more efficient operations because of the insight its innovative solutions provide.</p>
	<p><b>Allflex</b></p> <p>Allflex Australia will have information on a range of identification options, readers and Tissue Sampling Units at the Sheep CRC Final Conference. Wal White, Allflex Area Manager for Central &amp; Southern NSW will be present to answer questions. Please don't hesitate to come and find him inside the Trade Displays during the conference.</p>
	<p><b>Practical Systems</b></p> <p>Practical Systems is a software company delivering management, production and accounting solutions that address all components of any farm business. On display at the SheepCRC Final Conference will be accounting software Cashbook and livestock management software Stockbook. Along with this the Stockbook TSi will be on display and available for demonstrations.</p>
	<p><b>AWTA</b></p> <p>We will be displaying the Sheep CRC developed Wool Comfortmeter. The Wool ComfortMeter essentially counts the number of fibres protruding from a fabric that can cause discomfort. The Wool ComfortMeter allows retailers and manufacturers to specify a numerical value for comfort in their buying orders. This means that retailers and manufacturers have a means of objectively specifying and promoting a garment on the basis of superior comfort.</p>

## TRADE DISPLAYS

	<p><b>ParaBoss</b></p> <p>The ParaBoss website, <a href="http://www.paraboss.com.au">www.paraboss.com.au</a>, provides sheep producers with advice on tackling the costly challenges presented by worms, blowflies and lice. This website is a source of detailed management information that assists sheep producers in managing major parasite risks.</p>
	<p><b>Barbervax</b></p> <p>Barbervax is a novel vaccine that protects sheep against barbers pole worm. Launched in Armidale NSW in October 2014, it is the first vaccine in the world for a sheep worm and is the culmination of more than 20 years research at the Moredun Research Institute in Scotland. Barbervax is currently being widely used throughout Eastern Australia and South Africa.</p>
	<p><b>Superborder\$</b></p> <p>SuperBorder\$ is a group of 16 Border Leicester breeders from across Australia, who work together to encourage and nurture the understanding and use of objective genetic analysis of Border Leicesters rams. Lambs bred from SuperBorder\$ rams can marketed with branded eartags and placards to highlight their known superior breeding potential.</p>
	<p><b>SRS Genetics</b></p> <p>SRS Merino sheep are plain bodied animals with a distinctive fleece structure and loose, thin skin that sets it apart from other Merino sheep. SRS Genetics can quickly transform traditional Merino sheep into non-mulesed animals, able to produce high quality wool at volume.</p>
	<p><b>AMPC</b></p> <p>The Australian Meat Processor Corporation (AMPC) will be on hand to talk with visitors about current projects, new initiatives, and innovation in Australia's red meat processing sector.</p>



## *Thank you*

Great delegates make great conferences and we thank everybody who has made a significant contribution to the Final Conference by being here.

The second vital ingredient is great speakers and we thank each presenter for the effort and planning that they have put in to ensure a great conference.

Setting up and running trade displays is a big job and we thank all of our Participants who have made the effort to provide this conference with the added dimension of having the latest products and information for delegates to view and discuss.

Keeping a conference on track takes significant skill and we thank our two MCs for their contribution to the success of the conference.

A conference only happens when it is well organised and when people know about it. Thank you to the team responsible for the very professional organisation and promotion.



**SHEEP CRC**

SHEEP CRC LTD

ABN: 12 125 726 847

CJ Hawkins Homestead

University of New England

Armidale NSW 2351



Australian Government

Department of Industry and Science

**Business**

Cooperative Research  
Centres Programme