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THE CRAWFORD FUND  
*For a Food Secure World*

# TRANSFORMING LIVES & LIVELIHOODS

THE DIGITAL REVOLUTION IN AGRICULTURE

**The Crawford Fund**  
**2017 ANNUAL CONFERENCE**

Parliament House, Canberra ACT, Australia, 7–8 August 2017

*Editor: A. Milligan*





# TRANSFORMING LIVES AND LIVELIHOODS

The digital revolution in agriculture

The Crawford Fund  
2017 Annual Conference

Parliament House, Canberra ACT, Australia  
7–8 August 2017

Editor: A. Milligan

## The Crawford Fund

The Australian Academy of Technology and Engineering established the Crawford Fund in June 1987. Named in honour of the late Sir John Crawford, the Fund commemorates his outstanding services to international agricultural research. The Crawford Fund is a non-profit, non-government organisation, dedicated to raising awareness of the benefits to developing countries and to Australia of international agricultural research. The Fund depends on grants and donations from governments, private companies, corporations, charitable trusts and individual Australians. It also welcomes partnerships with agencies and organisations in Australia and overseas.

The Fund promotes and supports international R&D activities in which Australian research organisations and companies are active participants. It supports the work of the Australian Government's aid program, particularly with the Australian Centre for International Agricultural Research (ACIAR), the CGIAR Consortium and other international research centres.

The annual conference is a key part of the Fund's public awareness campaign, which increases understanding of the importance and potential of international agricultural research, its achievements and needs.

The Fund also runs training programs that fill a niche by offering practical, highly focused non-degree instruction to women and men engaged in agricultural research and management in developing countries.

The Crawford Fund

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## Acknowledgements

**The Crawford Fund wishes to thank the Chairs of the conference sessions, and the sponsors and supporters of this year's conference and scholar program**

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## Foreword

The Crawford Fund's annual conference holds a key place in the development and food security calendar in Australia. For more than two decades we have successfully brought into focus each year an issue worthy of global and Australian attention. This year has been no exception.

Titled 'Transforming Lives and Livelihoods: The Digital Revolution in Agriculture', our 2017 annual conference has focused on the current and future likely impact of the data revolution for smallholder farmers.

Big data represents an unprecedented opportunity to find new ways of reducing hunger and poverty, by applying data-driven solutions to ongoing research for development impact. These *Proceedings* now provide an enduring record of the conference presentations, supporting further application of such solutions.

By attracting the world's best speakers, providing extended question and answer sessions and opportunities for informal networking, this year's conference has, as in previous years, enabled participants to contribute and to place food security issues into a context relevant to their lives and work.

### **Sir John Crawford Memorial Address**

As always, our conference started with our popular networking dinner and the Sir John Crawford Memorial Address presented annually since 1985 in honour of the remarkable Australian in whose name the Crawford Fund was established. Sir John Crawford contributed at the highest levels to the development of Australia and other countries, and passionately supported international agricultural research for development.

This year's Sir John Crawford Memorial Address was titled 'A new narrative for ending hunger' and our speaker was Dr Lindiwe Majele Sibanda, an authoritative leader in agriculture, climate change and nutrition.

Dr Sibanda is Vice President for Country Support, Policy, and Delivery at Alliance for a Green Revolution in Africa and a Member of the Policy Advisory Council of the Australian Centre for International Agricultural Research.

### **Engaging young Australians in food security**

The Crawford Fund Scholar Program, and our international travel awards and hosting of Researchers in Agriculture for International Development (RAID), are three aspects of our efforts to encourage young Australians to engage in international research, development and education for the benefit of developing countries and Australia.

Scholarships to attend the Crawford Fund Annual Conference are awarded to young people who have a genuine interest in international agricultural development. The scholars are matched with a mentor for the event and take part in two half-days of activities before and after the conference. Since the program started in 2010, we have had more than 175 scholars. This year's conference alone has brought in almost 50 scholars.

### **Acknowledging our supporters**

The Crawford Fund would like to thank those who supported a scholar or have donated to our efforts this year. The scholars are among the delegates listed at the end of these *Proceedings*, and our scholar supporters are named in the Acknowledgements, along with the conference sponsors and Chairs this year (pp. v–vi immediately preceding this Foreword).

Most of our scholars go on to be part of RAID, which is a wonderful network that brings together early to mid-career researchers working or wanting to work in developing countries. RAID members helped with this year's Scholars' Days (see [www.raidaustralia.net](http://www.raidaustralia.net)), and RAID members have provided a summary of the whole conference, which is included in these *Proceedings* (pp. 133–137).



Conference scholars with the staff and Board of the Crawford Fund, August 2017