CAWS Student Travel Grant Report

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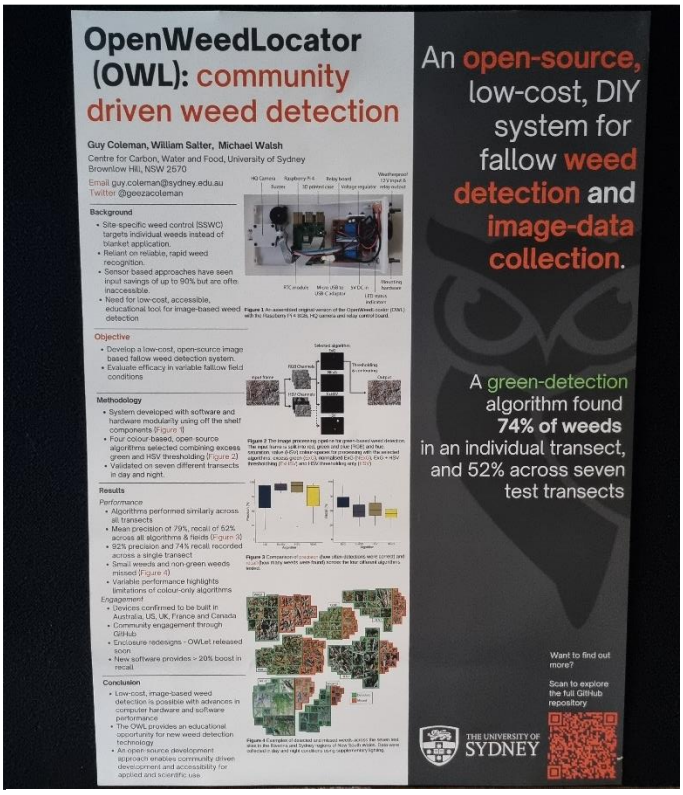
With the support of the CAWS Student Travel Award I was fortunate to attend the much anticipated 22nd Australasian Weeds Conference in Adelaide, South Australia. The conference took place at Adelaide Oval from the 25th to 29th September 2022, showcasing the breadth of research and development occurring in weeds research in both environmental and agricultural systems. Over the four days of presentations and workshops, the conference attracted around 250 people from predominantly Australian and New Zealand industry, government and research institutions to discuss challenges facing weed control in different production and environmental systems.

The combination of both environmental and cropping weeds research was one of the strengths of the conference, providing an opportunity to hear from and meet people using similar methods for different purposes. I particularly enjoyed learning more about the role of social science in weed science from Dr Sonia Graham and the University of Wollongong, who described the different forms of collective action in weed control and how different disciplines contributed to the better management of weeds. On the technology front, a presentation by Dr Mostafa Rahimiazghadi from James Cook University, provided more details on the performance of deep learning-based weed recognition in sugar cane systems. A great discussion on data requirements and reducing herbicide run off in the Great Barrier Reef catchment followed.

There was also an opportunity to join the Weed Remote Sensing Community of Practice and learn from other researchers and industry professionals in the field about their experiences with weed recognition technology. The session sought to better identify barriers to development and opportunities for better collaboration and focus for researchers in this field. Participating in this discussion and learning about other approaches to problems was insightful.

I presented on two aspects of my research, with a talk on laser weeding and poster on open-source weed detection technology, known as the OpenWeedLocator. There were some good questions from the audience on the role of laser weeding in large-scale Australian production systems, and further discussions were had after the presentation about where laser weeding and weed recognition may move next.

Following the conference, I arranged to meet with researchers at the Australian Plant Phenomics Facility (APPF) at the University of Adelaide, Waite Campus. The APPF is a cutting edge, robotic plant phenotyping facility with controlled glasshouse and field phenotyping systems. There I saw robotic glasshouses, controlled environment facilities and field



My poster from the conference on the OpenWeedLocator.

The robotic phenotyping greenhouse at the Australian Plant Phenomics Facility (APPF). The system automatically images, waters, and moves the pots.

phenotyping equipment too. It was fantastic to discuss plant imaging and phenotyping and learn more about how they assist plant research in Australia.

Many thanks to CAWS for supporting this trip to the 22AWC in Adelaide. The opportunity to present my research and meet with other weeds science researchers was invaluable.