Dr. Bettina Berger
Friday, September 27, 11:00 a.m.

High-throughput phenotyping to dissect complex traits in crops

Our ability to identify novel genes and alleles for beneficial traits is no longer limited by genetics and molecular resources but by a lack of efficient and high-throughput screening methods to measure those traits. The Plant Accelerator in Adelaide was built to help alleviate the phenotyping bottleneck and accelerate advances in crop physiology and trait discovery. It houses fully automated imaging and watering systems, allowing large scale phenotypic screens under various stress conditions. The continuous measurement of plant growth and development over time offers the possibility to dissect complex traits into their individual components and measure aspects of stress responses previously not amenable to high-throughput and thus forward genetics approaches.

Examples of the benefits of high-throughput image based phenotyping for drought and salinity research will be presented and projects underway to efficiently handle the large data sets generated will be introduced.