

## GxExM SYMPOSIUM

Times listed below are for Brisbane, Australia (AEST, UTC+10). To work out the time in your local area, try this [Time Zone Converter](#).

### DAY 1: THURSDAY 3 NOVEMBER

*Session 1 - GxExM Examples and needs for prediction methods. Chair: Mark Cooper*

Time	Speaker	Title
8:30am		Coffee and set up/registration
9:00am	Mark Cooper	Intro + Setting the scene for the GxExM workshop Session 1
9:15am	David Jordan	GxExM in Australian Sorghum a breeder's perspective
9:30am	Tolera Fufa	Effect of GxExM on maize yield improvement in Ethiopia
9:45am	Chris Gaynor	Genomic selection with known and latent environmental covariates
10:00am	Germano Costa Neto	Recycling historical environmental signatures enhance GxY prediction
10:15am	Gustavo de los Campos	Integrating Field Trial Data, DNA sequences, and Historical weather data to simulate genotypes' performances over possible weather conditions
10:30am		Break
11:00am	Justin Borevitz	Plant and Soil (meta)genomic selection for carbon drawdown with precision landscape management
11:30am	Zulfi Jahufer	Evaluation of white clover breeding lines for specific and broad adaptation under sheep, dairy and beef cattle grazing management
12:00pm		Lunch

*Session 2 - Statistical methodology for GxExM prediction. Chair: Fred van Eeuwijk*

Time	Speaker	Title
1:00pm	Fred van Eeuwijk	Intro + Setting the scene for the GxExM workshop Session 2
1:30pm	Daniela Bustos-Korts	Application of 2-dimensional p-splines for the exploitation of cultivar adaptation at a regional scale in Australia
2:00pm	Scott Chapman	Integrating sensing, machine learning and modelling to estimate environment and trait information in variety trials
2:30pm		Break
2:45pm	Akila Wijerathna-Yapa	Prior knowledge driven hypothesis generation for phenotypic prediction
3:15pm	Owen Powell	Using prior knowledge for breeding predictions
3:45pm		Break
4:15pm	Nimai Senapati	Estimating GxMxE interactions: A case study using a long-term winter wheat experiment and crop model
4:30pm	Kevin Burrage	Linking Breeder-type equations to Stochastic Differential Equations – as a proxy for probing the effects of climate variability on population dynamics
5:00pm	Fred van Eeuwijk	Closing remarks day 1

## DAY 2: FRIDAY 4 NOVEMBER

*Session 3 - Towards integrating statistical and dynamic models to predict GxExM. Chair: Charlie Messina*

Time	Speaker	Title
8:30am		Coffee and set up/registration
9:00am	Charlie Messina	Intro + Setting the scene for the GxExM workshop Session 3
9:30am	Jianming Yu	Phenotypic Plasticity Connects Gene, Organism, Environment, and Development
10:00am	Sandra Truong	Terraforming adaptive landscapes to smooth gradients between crop species
10:15am	Tom Tang	Evaluating a Multi-trait Prediction Framework in Large Breeding Trials to Accelerate Crop Improvement
10:45am		Break
11:00am	Diego Jarquin	Unleashing the Potential of Secondary Traits and Associated Genomes for Reshaping Genomic Selection
11:30am	Christine Diepenbrock	Dissecting GxExM of crop productivity and quality profiles under changing climates
12:00pm		Lunch

*Session 4 - Towards prediction of G-M technologies. Chair: Graeme Hammer*

Time	Speaker	Title
1:00pm	Graeme Hammer	Intro + Setting the scene for the GxExM workshop Session 4
1:30pm	Karine Chenu	Navigating through the GxExM landscape with crop modelling to assist crop adaptation
2:00pm	Alex Wu	Assessing effects of photosynthetic traits manipulation on crop growth and yield across environments
2:30pm		Break
2:45pm	Bangyou Zheng	Predicting cereal crop phenology through integration of genomic prediction and crop growth model
3:00pm	Michael Mumford	Predictive models incorporating environmental covariates for genotype $\times$ environment $\times$ management (G $\times$ ExM) interactions applied to sorghum agronomy trials
3:15pm	Joseph Eyre	Predicting crop management and genotype effects on maize and sorghum yield loss due to pre-anthesis fall armyworm ( <i>Spodoptera frugiperda</i> ) infestation
3:30pm	Graeme Hammer	Closing remarks day 2