

# #BIBC2025 Schedule

## Tuesday

| Start | Arc Cinema   | Theatrette  |
|-------|--|---|
| 08:15 | Conference Registration  |   |
| 08:45 | Opening remarks and housekeeping   |   |
| 09:05 | <b>Keynote</b> – Chair: Chris Brien  |   |
|       | <b>On Finding Good Experiments</b> by<br><i>Cheng Soon Ong</i>   |   |
| 10:00 | <b>Session 1A</b> – Chair: Garth Tarr  | <b>Session 1B</b> – Chair: Scott Foster   |
|       | <b>Data-Adaptive Automatic Threshold Calibration for Stability Selection</b><br>by <i>Martin Huang</i>                               | <b>Estimating abundance in small populations using pedigree reconstruction</b> by <i>Sarah Croft</i>                              |
|       | <b>Variable Selection in a Joint Model for Huntington's Disease Data</b> by<br><i>Rajan Shankar</i>                                  | <b>Accounting for heterogeneous detection rates when inferring eradication of an invasive species</b><br>by <i>Sean A. Martin</i> |
|       | <b>StableMate: a regression framework for selecting stable predictors across heterogeneous data environments</b> by <i>Yidi Deng</i> | <b>Zero-inflated Tweedie distribution for abundance of rare ecological species</b> by <i>Nokuthaba Sibanda</i>                    |
| 11:00 | Morning Tea  |   |
| 11:30 | <b>Session 2A</b> – Chair: Alan Welsh  | <b>Session 2B</b> – Chair: James Curran   |
|       | <b>Extending Spatial Capture-Recapture with the Hawkes Process</b> by <i>Alec B. M. van Helsdingen</i>                               | <b>Group Sampling with Imperfect Testing for Biosecurity Applications</b><br>by <i>Adele Jackson</i>                              |
|       | <b>A Test for Detecting Multiple Clusters with Hotspot Spatial Properties</b> by <i>Kunihiko Takahashi</i>                           | <b>Koala Distribution and Abundance</b><br>by <i>Scott D. Foster</i>  |
|       | <b>Outlier-robust estimation of state-space models using a penalised approach</b> by <i>Garth Tarr</i>                               | <b>Speed: An R package for Spatially Efficient Experimental Designs</b> by<br><i>Sam Rogers</i>                                   |

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| Start | Arc Cinema  | Theatrette   |
|-------|---|--|
|       | <b>Disease cluster detection via functional additive models incorporating spatial correlation</b> by <i>Michio Yamamoto</i>                               | <b>Running Human Subject Experiments via Online Crowdsourcing</b> by <i>Patrick Li</i>   |
| 12:50 | Lunch   |  |
| 13:50 | <b>Invited Session: A Cluster of Modern Clustering Methods for Biometrics</b> – Chair: <i>Francis Hui</i>   | <b>Session 3B</b> – Chair: <i>Ruth Butler</i>  |
|       | <b>Bayesian clustered ensemble prediction for multivariate time series</b> by <i>Shonosuke Sugasawa</i>   | <b>Building Trust Without Peer Review: Establishing Reproducibility Standards in Industrial Statistical Consulting</b> by <i>Dean Marchiori</i>                  |
|       | <b>The difficulties of clustering categorical or mixed data</b> by <i>Louise McMillan</i>   | <b>Teaching Meta-Analysis for Systematic Reviewers with Mixed Statistical Training</b> by <i>Xu Ning</i>   |
|       | <b>Species archetype models for presence-only data</b> by <i>Skipton N.C. Woolley</i>   | <b>Tales from the jungle: a personal perspective of statistical consulting since COVID</b> by <i>Alice Richardson</i>  |
|       |   | <b>Better Conversations, Better Support: Strengthening Consulting through Practical Education and Community</b> by <i>Sharon G. Nielsen</i>                      |
| 15:20 | Afternoon Tea   |  |
| 15:50 | <b>Session 4A</b> – Chair: <i>Zhanglong Cao</i>   | <b>Session 4B</b> – Chair: <i>Graham Hepworth</i>  |
|       | <b>Nested-factorial treatment models: types, their uses and examples</b> by <i>Chris Brien</i>  | <b>Enhancing Fraud Detection in Banking through Random Survival Forests: Addressing Data Imbalance and Model Transparency</b> by <i>Arjun Sekhar</i>             |
|       | <b>Integrating Spatial Data and On-Farm Experimentation to Understand Wheat Variety Performance Across Western Australia</b> by <i>Sandra K. Tanz</i>     | <b>Using point cloud data to discover genomic regions associated with dynamic height</b> by <i>Colleen H Hunt</i>  |
|       | <b>Multi-environment trial analysis of count data with complex variance structures using generalised linear mixed models</b> by <i>Michael H. Mumford</i> | <b>Automatic debiased machine learning (autoDML) for causal inference: implementation and evaluation in real-world observational studies</b> by <i>Tong Chen</i> |

## Tuesday Poster Session

- Location: Gallery
  - Time: 17:00-19:00
1. **Using atmospheric transport models to predict species incursions in northern Australia** by *Zhenhua (Iris) Hao Dr*
  2. **Visualisation of multinomial multilevel time-series modelling with application to current smoking status** by *Alice Richardson*
  3. **Paired Comparison with Cyclic Dominance: An Extension of the Bradley–Terry Model** by *Yuki Ohno*
  4. **Cleaning Text Data with Large Language Models** by *Jiajia Li*
  5. **ggincerta: An R Package for Uncertainty Visualisation with a Layered Grammar of Graphics** by *Xueqi Ma*
  6. **The “Theory of Sampling” (ToS) - have statisticians missed the boat?** by *Damian Collins*
  7. **Evaluating Diagnostic Performance via Bayesian  $F_1$  Score Estimation without a Gold Standard** by *Jun Tamura*
  8. **Evaluating Remote Monitoring in Automated Peritoneal Dialysis: A Difference-in-Differences Analysis** by *Annie Conway*
  9. **Judgement Post-Stratification for Covariate Adjustment in Pairwise Comparisons in Block Designs** by *Sam Rogers*
  10. **Bayesian inference for sparse Gaussian copula graphical model** by *Tomotaka Momozaki*
  11. **Visualization for departures from symmetry with the power-divergence-type measure in square contingency tables** by *Wataru Urasaki*
  12. **Performance of Factor Analytic Mixed Models and Plackett–Luce Models for Genotype Ranking in Multi-Environment Trials** by *Jiazhe Lin*

## Wednesday

| Start | Arc Cinema  | Theatrette   |
|-------|---|--|
| 08:30 | Conference Registration   |  |
| 08:50 | Housekeeping  |  |
| 08:55 | <b>Keynote – Chair: Thomas Lumley</b><br><b>Uses of gnm for Generalized (Non)linear Modelling</b> by <i>Heather L. Turner</i>                                       |  |
| 09:50 | <b>Session 5A – Chair: David Warton</b><br><b>Scalable finite mixture of regression models for clustering species responses in ecology</b> by <i>Francis KC Hui</i> | <b>Session 5B – Chair: Sam Rogers</b><br><b>Using a linear mixed model based wavelet transform to model non-smooth trends arising from designed experiments</b> by <i>Clayton Forknall</i> |

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| Start | Arc Cinema  | Theatrette  |
|-------|---|---|
|       | <b>Elastic Net Regularization for Vector Generalized Linear Models: A Flexible Framework for High-Dimensional Biomedical Data</b><br>by <i>Wenqi Zhao</i>         | <b>Functional Data Analysis for the Australian Grains Industry</b> by<br><i>Braden J. Thorne</i>                                    |
|       | <b>Fitting Generalised Linear Mixed Models using Sequential Quadratic Programming</b> by <i>Peter Green</i>   | <b>Bayesian Ordinal Regression for Crop Development and Disease Assessment</b> by <i>Zhanglong Cao</i>                              |
| 10:50 | Morning Tea   |   |
| 11:20 | <b>Invited Session: Statistics for Biosecurity Surveillance – Chair:</b><br><i>Robert Clark</i>   | <b>Session 6B – Chair: Linh Nghiem</b>  |
|       | <b>Optimal allocation of resources between control and surveillance for complex eradication scenarios</b><br>by <i>Mahdi Parsa</i>                                | <b>Estimating extinction time from the fossil record using regression inversion</b> by <i>David I. Warton</i>                       |
|       | <b>Inferring the rate of undetected contamination using random effects modelling of biosecurity screening histories</b> by <i>Sumonkanti Das and Robert Clark</i> | <b>The performance of Yu and Hoff's confidence intervals for treatment means in a one-way layout</b> by <i>Paul Kabaila</i>         |
|       | <b>Optimal sampling in border biosecurity: Application to skip-lot sampling</b> by <i>Raphael Trouve</i>  | <b>Rate-optimal sparse gamma scale mixture detection</b> by <i>Michael Stewart</i>  |
|       |   | <b>Extension of the corrected score estimator in a Poisson regression model with a measurement error</b> by<br><i>Kentarou Wada</i> |
| 12:50 | Lunch   |   |
| 13:00 | Social Activities   |   |
| 18:30 | Young (at heart) Biometrician Social Event  |   |

## Thursday

| Start | Arc Cinema  | Theatrette  |
|-------|---|---|
| 08:30 | Conference Registration   |   |
| 08:50 | Housekeeping  |   |
| 08:55 | <b>Invited Session: Statistics for Biosecurity Surveillance – Chair:</b><br><i>Beatrix Jones</i><br><br><b>Modularizing Biometric Models Facilitates Multistage Computing</b><br><i>by Mevin B. Hooten</i>  |   |
| 09:50 | <b>Session 7A – Chair: Vanessa Cave</b>   | <b>Session 7B – Chair: Alice Richardson</b>   |
|       | <b>Visualize your fitted non-linear dimension reduction model in the high-dimensional data space</b> by <i>P. G. Jayani Lakshika</i><br><br><b>The geometry of diet: using projections to quantify the similarity between sets of dietary patterns</b> by <i>Beatrix Jones</i><br><br><b>Multivariate meta-analysis methods for high-dimensional data</b> by <i>Alysha M. De Livera</i>                               | <b>Reporting Odds Ratios under Fluctuating Reporting Rates in Spontaneous Reporting Systems</b> by <i>Tatsuhiko Anzai</i><br><br><b>Handling Missingness in Prevalence Estimates from National Surveys</b> by <i>Oyelola Adegboye</i><br><br><b>Pooled testing with penalized regression models</b> by <i>Christopher Bilder</i>  |
| 10:50 | Morning Tea   |   |
| 11:20 | <b>Session 8A – Chair: Matthew Schofield</b>  | <b>Session 8B – Chair: Chris Triggs</b>   |
|       | <b>Integrated Species Distribution Models: A Single-Index Approach</b> by <i>Quan Vu</i><br><br><b>Simultaneous Inference for Latent Variable Predictions in Factor Analytic Models</b> by <i>Zhining Wang</i><br><br><b>Model-based assessment of functional and phylogenetic diversity</b> by <i>Shaoqian Huang</i><br><br><b>Fitting integrated species distribution models using mgcv</b> by <i>Elliot Dovers</i> | <b>Crossvalidation for predictive models in complex survey data</b> by <i>Thomas Lumley</i><br><br><b>A Set of Precise Asymptotics for Gaussian Variational Approximation in Generalised Linear Mixed Models</b> by <i>Nelson J. Y. Chua</i><br><br><b>An allometric differential equation model quantifies energy trade-offs between growth and reproduction under temperature variation</b> by <i>Hideyasu Shimadzu</i><br><br><b>A circular hidden Markov model for directional time series data</b> by <i>A.A.P.N.M. Perera</i> |
| 12:40 | Lunch   |   |
| 12:50 | AGM   |   |

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| Start | Arc Cinema  | Theatrette  |
|-------|---|---|
| 13:40 | <b>Invited Session: Methods and Practice in Agricultural Analytics – Chair: Emi Tanaka</b><br><br><b>Evaluating the impact of trait measurement error on genetic analysis of computer vision-based phenotypes</b> by <i>Gota Morota</i><br><br><b>Predication of Daily Weight Gain with Cattle Behaviour and Daily Activity Using Triaxial Accelerometer Data</b> by <i>Shuwen Hu</i><br><br><b>Fishing for Heritability in the Gill Microbiome: Why Statisticians Should get out into the field</b> by <i>Elle Saber</i> | <b>Session 9B – Chair: Sam Mason</b><br><br><b>Do Mice Matter? The Impact of Mice on a New Zealand Ecosanctuary</b> by <i>Vanessa Cave</i><br><br><b>Modelling Species Diversity from Citizen-Science Bird Counts</b> by <i>Graham Hepworth</i><br><br><b>Continental-Scale Bayesian Analysis of Acacia Flowering Phenology: A Novel Framework Integrating Phylogenetic Signal and Circular Statistics</b> by <i>Owen Forbes</i><br><br><b>Spatio-Temporal Species Distribution Modelling</b> by <i>Sam Mason</i>   |
| 15:10 | Afternoon Tea   |   |
| 15:40 | <b>Session 10A – Chair: Julian Taylor</b><br><br><b>The <i>equalto</i> covariance structure for meta-analysis using the glmmTMB R package</b> by <i>Coralie C. Williams</i><br><br><b>Simulation-based Inference about Variance Components</b> by <i>Farwa Saleem</i><br><br><b>A Proportional Random Effect Block Bootstrap for Highly Unbalanced Clustered Data</b> by <i>Zhi Yang Tho</i>  | <b>Session 10B – Chair: Oyelola Adegboye</b><br><br><b>Extending diagnostic validity meta-analysis to several diagnostic guidelines</b> by <i>Alain C. Vandal</i><br><br><b>Risk of Guillain-Barré Syndrome after COVID-19 vaccination and SARS-CoV-2 infection: A multinational self-controlled case series study</b> by <i>Han Lu</i><br><br><b>Childhood Risk and Resilience Factors for Pasifika Youth Respiratory Health: Accounting for Attrition and Missingness</b> by <i>Siwei Zhai</i><br><br><b>A missing data detective story – how I navigated through a perfect storm of drop-out's, COVID and informative missingness.</b> by <i>Eve Slavich</i> |
| 18:30 | Conference Dinner   |   |

## Friday

| Start | Arc Cinema  | Theatrette  |
|-------|---|---|
| 08:40 | Conference Registration   |   |
| 09:00 | Housekeeping  |   |
| 09:05 | <b>Keynote – Chair: Louise McMillan</b>   |   |
|       | <b>Saddlepoint approximations for likelihoods</b> by <i>Jesse Goodman</i>   |   |
| 10:00 | <b>Session 11A – Chair: Yidi Deng</b>   | <b>Session 11B – Chair: David Baird</b>   |
|       | <b>False Discovery Rate Controlled Robust Variable Selection under Cellwise Contamination</b> by <i>Xiaoya Sun</i>                  | <b>Genstat Markdown: Reproducible Research with Genstat</b> by <i>James M. Curran</i>   |
|       | <b>A covariate-adaptive test for replicability across multiple studies with false discovery rate control</b> by <i>Dennis Leung</i> | <b>The 4S method for the longitudinal analysis of multidimensional questionnaires: application to Parkinson's disease progression from patient perception</b> by <i>Tiphaine Saulnier</i> |
|       | <b>A semi-supervised framework for diverse multiple hypothesis testing scenarios</b> by <i>Jack Freestone</i>                       | <b>heritable An R package for heritability calculations for plant breeding trials</b> by <i>Fonti Kar</i>   |
| 11:00 | Morning Tea   |   |
| 11:30 | <b>Keynote – Chair: James Curran</b>  |   |
|       | <b>Optimizing Research Impact Through Interdisciplinary and Collaborative Research</b> by <i>Charmaine B. Dean</i>                  |   |
| 12:20 | Closing Ceremony  |   |
| 12:40 | Lunch   |   |