AMSIConnect 2025 Program

Venue: Queen's College, College Crescent, The University of Melbourne, Parkville
All times are in AEDT (ACT, NSW, TAS, VIC)
Program may be subject to change

Welcome – Wednesday 5 February

4:30 pm	Group 1 arrives – Bus transfer from airport to Queen's College for interstate students
5:30 pm	Group 2 arrives – Bus transfer from airport to Queen's College for interstate students
6-7 pm	**WELCOME DINNER at Queen's College**

Conference Day 1 – Thursday 6 February

09:40 am	**REGISTRATION**	
09:55 am	**Queen's College Housekeeping and Safety Announcements**	
10:00 am	**WELCOME – Professor Tim Marchant, AMSI**	
	Eakins Foyer	
10:10 am	Guest Speaker: Life as a Phd Student **Jayamini Liyanage, La Trobe University**	
10:40 am	Guest Speaker: Life as a Researcher **Dr Simon Bowly, Gurobi**	
11:10 am	Group photo	
11:20 am	**MORNING TEA**	
	Eakins Foyer	*Stafford Room*
Chair	Jayamini Liyanage, La Trobe University	*Simon Bowly, Gurobi*
	Applied	**Statistics/Data Science**
12:00 pm	Implementing a numerical scheme for pricing of American options under model uncertainty **Billy Bourdaniotis, UNSW**	Advancing structural phylogenetics approach **Li Fu Zhang, The University of Melbourne**
12:20 pm	A model-based approach for estimating Group A Streptococcus transmission pathway parameters from transmission networks inferred from Whole Genome Sequence data **Aarón Alonso García, La Trobe University** *virtual*	Flexible Recalibration of Approximate Bayesian Models **Jack Fewtrell, Queensland University of Technology**
12:40 pm	Deep Learning in Hidden Markov Models **Kyan Percevault, The University of Adelaide**	Goodness-of-Fit Diagnostics for Capture-Recapture Models **Bernice Laitly, UNSW**
1:00 pm	**LUNCH**	

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Conference Day 1 Afternoon Sessions – Thursday 6 February

	Eakins Foyer	Stafford Room
Chair	Angela Coughlin, AMSI	Anna Muscara, AMSI
	Pure/Theoretical	**Applied**
2:00 pm	Deformation of Curves on Surfaces: New Perspectives and Applications **Lekh Bhatia, Australian National University**	Investigating the Ecological Diversity-Stability Debate using Differential Equation Models and Statistical Sampling Techniques **Ben Cicchini, Queensland University of Technology**
2:20 pm	Corollaries of the Gauss-Bonnet Theorem for Surfaces in R^n **Annalisa Calvi, Monash University**	A Mathematical Exploration of the Role of Feral Pigs in the Transmission of Japanese Encephalitis Virus **Emma Naumann, James Cook University**
2:40 pm	Slices in Schottky space **Akito Koike, The University of Sydney**	Including Calcium in Mathematical Models for Atherosclerosis **Faith Sawers, The University of Adelaide**
3:00 pm	**AFTERNOON TEA**	
	Eakins Foyer	Stafford Room
Chair	Angela Coughlin, AMSI	Lisa Farrar, AMSI
	Pure/Theoretical	**Applied**
3:30 pm	Regularity of solutions to elliptic boundary value problems near cusp domain boundaries **Hugo Fellows-Smith, The University of Western Australia**	Tempo-Spatial Analysis of Australian Fuel Price Dynamics **Gurushey Deo, The University of Queensland**
3:50 pm	Diagram Bethe ansatz **Ainsley Nicoll, The University of Melbourne**	Is a Picture Worth a Thousand Words? String Diagrams in Quantum Game Theory **Emily Sykes, Macquarie University**
4:10 pm	Walk to UniMelb campus – Old Arts Building 149	
4:30 pm	Jane Street Estimathon Old Arts Room 129	
5:30 pm	Walk to Queens College	
6-7 pm	**DINNER at Queen's College**	

Student biographies & summer research project summaries:

srs.amsi.org.au/research-projects

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Conference Day 2 – Friday 7 February

	Applied	Pure/Theoretical
	Eakins Foyer	*Stafford Room*
Chair	*Professor Sergey Suslov, Swinburne University*	*Dr Leonardo Maltoni, ANU*
09:20 am	Phonetic Spelling Correction Using Vector Space Models and Dimensionality Reduction **Louisa Best, Deakin University *virtual***	Analytically Predicting the Size of Magnetic Skyrmions in Bulk Materials **Jack Humphreys, The University of Newcastle**
09:40 am	Knots, Rational Tangles and DNA Topology **Uli Krahn, The University of New England**	Rouquier Complexes and Link Invariants **Yangda Bei, Australian National University**
10:00 am	Amplitude Equations for Modelling Electromagnetically Induced Flows **Ishwarabroto Mridha, Swinburne University**	
10:20 am	**MORNING TEA**	
	Eakins Foyer	*Stafford Room*
Chair	*Professor Tim Marchant, AMSI*	*Associate Professor Julien Ugon, Deakin University*
	Pure/Theoretical	Applied
11:00 am	Modular Algorithms for Computation in Simple Algebraic Extension Fields **Mitchell Holt, The University of Queensland**	Post Quantum Cryptography **Shirley Wang, The University of Sydney**
11:20 am	Vertex Operator Algebras and the Monster **James Jensen, The University of Western Australia**	Optimum Cloud Computing **Toby Mew, Monash University**
11:40 am	On a Class of Right Restriction Monoids Related to Diagram Monoids and Transformation Semigroups **Luka Carroll, Western Sydney University**	A Mathematical Programming Framework for Scalable Network Design in Beyond 5G **Brianna Laird, Deakin University**
12:00 pm	**LUNCH & best presentation voting**	
	Eakins Foyer	
1:00 pm	Guest Speaker: Careers Professor Tim Marchant, AMSI	
1:40 pm	**Conference Wrap up & prize announcements**	
2:30 pm	Airport bus transfer for interstate students	

Eakins Foyer Zoom link:
https://unimelb.zoom.us/j/85355853336?pwd=ixsyFQ1sHXBRnVaMVZe75aoEeoJDiw.1
Meeting ID: 853 5585 3336   Passcode: 151328

Stafford Zoom link:
https://unimelb.zoom.us/j/83842086267?pwd=8eXrYOEaQdoCN2hceBgiMrJacpp1AM.1
Meeting ID: 838 4208 6267   Passcode: 185313

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