

## AMSIConnect 2024 Program

All times are in AEDT (ACT, NSW, TAS, VIC)

*Program may be subject to change*

### Wednesday 7 February 2024

<b>5:00 pm</b>	Group 1 arrives – Bus transfer from airport to Queen’s College for interstate students
<b>6:00 pm</b>	Group 2 arrives – Bus transfer from airport to Queen’s College for interstate students
<b>6:15 pm – 7:00 pm</b>	<b>WELCOME DINNER</b> at Queen’s College

### Conference Day 1 – Thursday 8 February 2024

Venue: Queen’s College, College Crescent, The University of Melbourne, Parkville

<b>09:40 am</b>	<b>REGISTRATION</b>	
<b>10:00 am</b>	<b>WELCOME – Professor Tim Marchant, AMSI</b>	
	<i>Eakins Foyer</i>	
<b>10:10 am</b>	Guest Speaker: Life as a Phd Student <b>Matthias Fresacher, Western Sydney University</b>	
<b>10:40 am</b>	Guest Speaker: Life as a Researcher <b>Professor Asha Rao, RMIT University</b>	
<b>11:10 am</b>	Group photo	
<b>11:20 am</b>	<b>MORNING TEA</b>	
	<i>Eakins Foyer</i>	<i>Stafford Room</i>
<b>Chair</b>	<i>Matthias Fresacher, Western Sydney University</i>	<i>Professor Asha Rao, RMIT University</i>
	<b>Pure/Theoretical</b>	<b>Applied</b>
<b>12:00 pm</b>	Brauer Monoid Factorisations using Machine Learning Techniques <b>Saakshi Singh, Western Sydney University</b>	Post-Quantum Cryptography <b>Jason Liu, The University of Sydney</b>
<b>12:20 pm</b>	Stochastic Optimal Control and Robust Filtering Under Rough Paths <b>Jonathan Mavroforas, University of Technology Sydney</b>	Using Stop-Motion Animation to Teach Exponential and Logarithmic Functions <b>Cassandra Davey, Swinburne University of Technology</b>
<b>12:40 pm</b>	Freely Adding Equality to Primary Fibrations <b>Isaac Bankier, University of Wollongong</b>	Investigation of the switching threshold in the Switching Observer Model for human perceptual estimation <b>Chih Yuan (Yuan) Chan, The University of New England</b>
<b>1:00 pm</b>	<b>LUNCH</b>	

Eakins Foyer Zoom link:

<https://unimelb.zoom.us/j/84577433662?pwd=SG5NUVVhUGZHemZVTy82ZWNoa3drUT09>

Stafford Zoom link:

<https://unimelb.zoom.us/j/88150890183?pwd=R3FGTzIzcE9rWGVNcUZISkk1dnF2dz09>

**Conference Day 1 Afternoon Sessions – Thursday 8 February 2024**

**Venue: Queen’s College, College Crescent, The University of Melbourne, Parkville**

	<i>Eakins Foyer</i>	<i>Stafford Room</i>
<b>Chair</b>	<i>Associate Professor Alysson Costa, The University of Melbourne</i>	<i>Matthias Fresacher, Western Sydney University</i>
	<b>Applied</b>	<b>Statistics</b> <b>Pure/Theoretical</b>
<b>2:00 pm</b>	Stochastic modelling with applications in retirement income and long-term investment <b>Shuaitong Qian, Monash University</b>	Spectra of Toeplitz operators on Hardy-Hilbert Spaces <b>Enxi Lin, UNSW</b>
<b>2:20 pm</b>	A Mutual Information-Based Metric for Assessing Partitions of Dynamical Systems <b>Jason Lu, The University of Western Australia</b>	Cell type deconvolution methods for spatial isoform-resolution expression data <b>Yichen Jiang, The University of Melbourne</b>
<b>2:40 pm</b>	Curvature dependence of reaction-diffusion front speed with nonlinear diffusion <b>Nina Hadzivukovic, Queensland University of Technology</b>	Hidden Markov Models for Analyzing Stress Levels in Working Dogs: A Comparative Study of Data Collection Devices and Frequencies <b>Hanyang Zheng, The University of Sydney</b>
<b>3:00 pm</b>	<b>AFTERNOON TEA</b>	
	<i>Eakins Foyer</i>	<i>Stafford Room</i>
<b>Chair</b>	<i>The University of Melbourne</i>	<i>Dr Louise Olsen-Kettle, Swinburne University of Technology</i>
	<b>Pure/Theoretical</b>	<b>Applied</b>
<b>3:40 pm</b>	Categories of directed and undirected graphs <b>Alex Marciano, The University of Adelaide</b>	Modelling Impact Resistant Materials for use in Protective Gear <b>Minh Thu Nguyen, Swinburne University of Technology</b>
<b>4:00 pm</b>	Categories of directed and undirected graphs <b>Chun Hei Lee, The University of Adelaide</b>	Topology and Complexity of Braided Magnetic Fields of the Sun <b>Zachariah Jones, The University of Newcastle</b>
<b>4:20 pm</b>	A Category Theoretic Approach to Dynamical Systems <b>James Kelly, The University of Melbourne</b>	Coriolis Force acting on Magnetic Active Regions on the Sun <b>Liam Barnes, The University of Newcastle</b>
<b>4:40 pm</b>		Optimising bone shape with renewable mechanical memory <b>Rebecca Milne, Queensland University of Technology</b>
<b>5:00 pm</b>	Free time	
<b>5:30 pm</b>	Jane Street Estimathon in Eakins Foyer	
<b>6:30 pm – 7:30 pm</b>	<b>DINNER</b>	

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Stafford Zoom link:

<https://unimelb.zoom.us/j/88150890183?pwd=R3FGTzIzcE9rWGVNcUZISkk1dnF2dz09>

**Conference Day 2 – Friday 9 February 2024**

**Venue: Queen’s College, College Crescent, The University of Melbourne, Parkville**

	<b>Pure/Theoretical</b>	
	<i>Eakins Foyer</i>	
<i>Chair</i>		
<b>09:20 am</b>	A Generalisation of the Ising Model on the Complete Graph <b>Emily Palit, Monash University</b>	
<b>09:40 am</b>	Long memory random walks <b>Nelly Tucker, Monash University</b>	
<b>10:00 am</b>	Mackey Functor (Co)homology of G-C.W Complexes <b>Kenrick Chung, UNSW</b>	
<b>10:20 am</b>	<b>MORNING TEA</b>	
	<i>Eakins Foyer</i>	<i>Stafford Room</i>
<i>Chair</i>		<i>Professor Tim Marchant, AMSI</i>
	<b>Pure/Theoretical</b>	<b>Statistics</b>
<b>11:00 am</b>	Low-diameter Networks for Applications on High Performance Computing and Communication Networks <b>Matthew Cochran, Deakin University</b>	Data-Efficient Reinforcement Learning <b>Joel Woodfield, The University of Queensland</b>
<b>11:20 am</b>	SO(n)-invariant Einstein metrics <b>Joseph Kwong, The University of Queensland</b>	Exploring inequity of green space distribution in Adelaide <b>Jiaqi Yao, The University of Adelaide</b>
<b>11:40 am</b>	Foundations of Hyperbolic Geometry <b>Jolyon Joyce, The University of Western Australia</b>	Gaussian Processes for Modelling the Navier Stokes Equations <b>Elizabeth Mabbutt, University of Wollongong</b>
<b>12:00 pm</b>	<b>LUNCH &amp; best presentation voting</b>	
	<i>Eakins Foyer</i>	
<b>1:00 pm</b>	Guest Speaker: Careers Professor Tim Marchant, AMSI	
<b>1:40 pm</b>	<b>Conference Wrap Up &amp; prize announcements</b>	
<b>2:30 pm</b>	Group 1 - Airport bus transfer for interstate students	
<b>3:30 pm</b>	Group 2 - Airport bus transfer for interstate students	

Eakins Foyer Zoom link:

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Stafford Zoom link:

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