

## AMSIConnect 2022 program

### Day 1 – Wednesday 9 February 2022

WA	QLD	SA	AEDT		
8:00am	10:00am	10:30am	11:00am	WELCOME – Tim Marchant, AMSI Director	
				<i>Zoom Room 1</i>	
8:10am	10:10am	10:40am	11:10am	Guest Speaker: Life as a Researcher <b>Professor Gary Froyland, UNSW</b>	
8:40am	10:40am	11:10am	11:40am	Guest Speaker: Life as a PhD Student <b>Ruby Dawes, The University of Sydney</b>	
9:10am	11:10am	11:40am	12:10pm	Ice Breaker Activity	
09:30am	11:30am	12:00pm	12:30pm	BREAK	
				<i>Zoom Room 1</i>	<i>Zoom Room 2</i>
			<i>Chair</i>	<i>Matias Quiroz, University of Technology Sydney</i>	<i>Dr Mumtaz Hussain, La Trobe University</i>
				<b>Statistics</b>	<b>Applied</b>
10:00am	12:00pm	12:30pm	1:00pm	Bayesian Estimation of Stationary Time Series Models with Exogenous Inputs <b>Mark Youssef, University of Technology Sydney</b>	Optimising the Image Mosaicing of Visual Representations of Functions <b>Hannah Perry, The University of Melbourne</b>
10:20am	12:20pm	12:50pm	1:20pm	Impact of Land-Use Changes on Rainfall in South Australia <b>Shurui Yi, University of South Australia</b>	Extreme Events and Critical Fluctuations in Generated Time Series Data <b>Daniel Claassen, The University of Western Australia</b>
10:40am	12:40pm	1:10pm	1:40pm	Semi-Parametric Time-Series Models: Computation and Simulation <b>Kyle Macaskill, The University of Queensland</b>	Cellular Automata Traffic Analysis of Simple Road Networks <b>Jamie Keegan-Treloar, Flinders University</b>
11:00am	1:00pm	1:30pm	2:00pm	Infilling Missing Data in Time Series <b>Hanyi Wang, University of South Australia</b>	
11:20am	1:20pm	1:50pm	2:20pm	BREAK	

**Day 1 – Wednesday 9 February 2022 continued**

WA	QLD	SA	AEDT		
				<b>Zoom Room 1</b>	<b>Zoom Room 2</b>
			<b>Chair</b>	<i>Sophie Hautphenne, The University of Melbourne</i>	<i>Ning Wang, University of Wollongong</i>
				<b>Applied</b>	<b>Applied</b>
<b>12:00pm</b>	<b>2:00pm</b>	<b>2:30pm</b>	<b>3:00pm</b>	A Computational Approach to Population-Size-Dependent Branching Processes <b>Minyuan Li, The University of Melbourne</b>	Optimal Insurance Contract from a Principal-Agent Perspective <b>Patrick Gillen, University of Wollongong</b>
<b>12:20pm</b>	<b>2:20pm</b>	<b>2:50pm</b>	<b>3:20pm</b>	Computational (Optimal) Transport for Domain Adaptation <b>Thanh Dat Tran, Monash University</b>	How Is American Option Optimal Price Affected by Transaction Costs? <b>Jeremy Sterjovski, University of Wollongong</b>
<b>12:40pm</b>	<b>2:40pm</b>	<b>3:10pm</b>	<b>3:40pm</b>	The 3-Body Problem in 4 Dimensions <b>Jonathan Skelton, The University of Sydney</b>	Comparing Efficient Portfolios of Australian Shares Using Different Risk Measures <b>Zachary Tindale, Curtin University</b>
<b>1:00pm</b>	<b>3:00pm</b>	<b>3:30pm</b>	<b>4:00pm</b>	Analytic Theory for Magnetic Skyrmions <b>Ellen Lu, The University of Newcastle</b>	A Large-Scale Text Analysis of Australian TV Media <b>Tyson Rowe, The University of Adelaide</b>
<b>1:20pm</b>	<b>3:20pm</b>	<b>3:50pm</b>	<b>4:20pm</b>	<b>DAY ONE CLOSE</b>	

**Zoom Room 1** – <https://unimelb.zoom.us/j/84800538538?pwd=aVFLQzR1MUI4RzhtTzVhQm9lRzBUdz09>

**Zoom Room 2** – <https://unimelb.zoom.us/j/84621727532?pwd=cmNmVHBYRFZSeVQwemliSTJiZVJaUT09>

**Gather Town** – <https://gather.town/app/KkxVF0V43kjtXibB/AMSI%20Events>

**Day 2 – Thursday 10 February 2022**

WA	QLD	SA	AEDT		
				<b>Zoom Room 1</b>	<b>Zoom Room 2</b>
			<b>Chair</b>	<i>Andriy Olenko, La Trobe University</i>	<i>Christopher Lustri, Macquarie University</i>
				<b>Statistics</b>	<b>Applied</b>
<b>8:00am</b>	<b>10:00am</b>	<b>10:30am</b>	<b>11:00am</b>	Hybrid Non-Linear Statistical Methods with Applications to Modelling House Prices <b>Adam Bilchouris, La Trobe University</b>	Optimal Stopping Differential Equations <b>Patrick Daley, Macquarie University</b>
<b>8:20am</b>	<b>10:20am</b>	<b>10:50am</b>	<b>11:20am</b>	Multi-Scale Poisson Process Approaches for Analysis of Paired-End High-Throughput Sequencing Data <b>Yuxin Yan, The University of Melbourne</b>	Long-Term Behaviour of Ranking-Based Polya Urn Models <b>Kate Zhang, The University of Melbourne</b>
<b>8:40am</b>	<b>10:40am</b>	<b>11:10am</b>	<b>11:40am</b>	Statistical Methodologies for Temporal Networks <b>Nayani Ranasinghe, RMIT University</b>	Properties of Random Network Models <b>David Chen, The University of Melbourne</b>
<b>9:00am</b>	<b>11:00am</b>	<b>11:30am</b>	<b>12:00pm</b>	Using Dense Correspondence Between 3D Morphable Faces to Determine Expression <b>Paimoe Tapsell, Edith Cowan University</b>	Random Walks (Generic) and Their Applications <b>Huan Chen, Monash University</b>
<b>9:20am</b>	<b>11:20am</b>	<b>11:50am</b>	<b>12:20pm</b>	<b>BREAK</b>	

**Zoom Room 1** – <https://unimelb.zoom.us/j/84800538538?pwd=aVFLQzR1MUI4RzhtTzVhQm9lRzBUdz09>

**Zoom Room 2** – <https://unimelb.zoom.us/j/84621727532?pwd=cmNmVHBYRFZSeVQwemliSTJiZVJaUT09>

**Gather Town** – <https://gather.town/app/KkxVF0V43kJtXjbB/AMSI%20Events>

Day 2 – Thursday 10 February 2022 continued

WA	QLD	SA	AEDT		
				<i>Zoom Room 1</i>	<i>Zoom Room 2</i>
			<i>Chair</i>	<i>Thomas Britz, The University of New South Wales</i>	<i>Arnaud Brothier, The University of New South Wales</i>
				<b>Pure/Theoretical</b>	<b>Pure/Theoretical</b>
10:00am	12:00pm	12:30pm	1:00pm	On the Sums of Möbius Function Values of a Finite Poset <b>Jovana Kolar, The University of New South Wales</b>	C*-Algebras of Discrete Groups <b>Daniel Dunmore, The University of New South Wales</b>
10:20am	12:20pm	12:50pm	1:20pm	Knots and Combinatorics <b>Emma McQuire, Monash University</b>	Complex Analytic Aspects of Differential Equations <b>Preet Patel, Monash University</b>
10:40am	12:40pm	1:10pm	1:40pm	Improving Dirichlet's Theorem <b>Adam Brown-Sarre, La Trobe University</b>	Super Hurwitz Numbers <b>Miles Koumouris, The University of Melbourne</b>
11:00am	1:00pm	1:30pm	2:00pm	Cocyclic Generalised Hadamard Matrices <b>Peter Gill, Monash University</b>	The Dirichlet Problem in the Light of Capacity Theory <b>Liu hao Yu, The University of Western Australia</b>
11:20am	1:20pm	1:50pm	2:20pm	Polynomial Method in Additive Combinatorics: Extension of CAP Sets Problem to More Than Three Points <b>Georgio Hawi, The University of Sydney</b>	A new Weyl Multiplet for 6D N=1 Conformal Supergravity <b>Jesse Woods, The University of Queensland</b>
11:40am	1:40pm	2:10pm	2:40pm	<b>BREAK</b>	
				<i>GatherTown</i>	
12:20pm	2:20pm	2:50pm	3:20pm	<b>AMSIConnect Trivia</b>	
1:20pm	3:20pm	3:50pm	4:20 pm	<b>DAY TWO CLOSE</b>	

Zoom Room 1 – <https://unimelb.zoom.us/j/84800538538?pwd=aVFLQzR1MUI4RzhtTzVhQm9lRzBUdz09>

Zoom Room 2 – <https://unimelb.zoom.us/j/84621727532?pwd=cmNmVHBYRFZSeVQwemliSTJiZVJaUT09>

Gather Town – <https://gather.town/app/KkxVF0V43KjtXjbB/AMSI%20Events>

**Day 3 - Friday 11 February 2021**

***International Day of Women and Girls in Science 2022***

WA	QLD	SA	AEDT		
				<b>Zoom Room 1</b>	<b>Zoom Room 2</b>
			<b>Chair</b>	<i>Yaping Yang, The University of Melbourne</i>	<i>Inge Koch, The University of Western Australia</i>
				<b>Pure/Theoretical</b>	<b>Statistics</b>
<b>8:00am</b>	<b>10:00am</b>	<b>10:30am</b>	<b>11.00am</b>	KZ-Functor for Rational Cherednik Algebras <b>Yifan Guo, The University of Melbourne</b>	Statistical Analysis of Complex Proteomics Mass Spectrometry Data <b>Sophie Giraud, The University of Western Australia</b>
<b>8:20am</b>	<b>10:20am</b>	<b>10:50am</b>	<b>11.20am</b>	The Representation Theory of Hecke Algebras Through the Knizhnik-Zamolodchikov Functor <b>Muhammad Haris Rao, The University of Melbourne</b>	Deconvolving the Rocking Curve: Non-Parametric Wavelet Approaches to Phase-Contrast Imaging <b>Cecilia Andersson, Flinders University</b>
<b>8:40am</b>	<b>10:40am</b>	<b>11:10am</b>	<b>11:40am</b>	Geodesic Growth Function of a Virtually Heisenberg Group <b>Aden Northcote, University of Technology Sydney</b>	Optimal Strategies in Sequential Selection Problems <b>Ben Martin, Macquarie University</b>
<b>9:00am</b>	<b>11:00am</b>	<b>11:30am</b>	<b>12:00pm</b>	Towards a Uniform Sampling Procedure for Abstract Triangulations of Surfaces <b>Rajan Shankar, The University of Sydney</b>	Data Assimilation for Korteweg-De Vries Equations <b>Michael Kaminski, University of Wollongong</b>
<b>9:20am</b>	<b>11:20am</b>	<b>11:50am</b>	<b>12:20pm</b>	<b>BREAK</b>	

**Zoom Room 1** – <https://unimelb.zoom.us/j/84800538538?pwd=aVFLQzR1MUI4RzhtTzVhQm9IRzBUdz09>

**Zoom Room 2** – <https://unimelb.zoom.us/j/84621727532?pwd=cmNmVHBYRFZSeVQwemliSTJiZVJaUT09>

**Gather Town** – <https://gather.town/app/KkxVF0V43KjtXjbB/AMSI%20Events>

Day 3 - Friday 11 February 2021 continued

*International Day of Women and Girls in Science 2022*

WA	QLD	SA	AEDT		
				<b>Zoom Room 1</b>	<b>Zoom Room 2</b>
			<b>Chair</b>	<i>Timothy Buttsworth, The University of Queensland</i>	<i>Gregory Markowsky, Monash University</i>
				<b>Pure/Theoretical</b>	<b>Applied</b>
10:00am	12:00pm	12:30pm	1:00pm	Uniqueness of Einstein Metrics <b>Patrick Donovan, The University of Queensland</b>	Properties of Brownian Motion <b>Pu Ti Dai, Monash University</b>
10:20am	12:20pm	12:50pm	1:20pm	Special Solutions to the Ricci Flow on 4-Dimensional Principal Bundles <b>Jaco van Tonder, The University of Queensland</b>	Spatial Modelling of Lesion Development Informed by Multiple Sclerosis Patient MRIs <b>Geneva Birtles, Queensland University of Technology</b>
10:40am	12:40pm	1:10pm	1:40pm	Bach Flow on Non-Product Homogeneous 4-Manifolds <b>Adam Thompson, The University of Queensland</b>	Mean Exit Time for Diffusion on Irregular Domains <b>Joshua Roebuck, Queensland University of Technology</b>
11:00am	1:00pm	1:30pm	2:00pm	Stable Homotopy Theory and the Adams Spectral Sequence <b>Olin Gao, Australian National University</b>	Applicability of Discrete Fourier Transforms in Denoising Images <b>Sami Salem, The University of Adelaide</b>
11:20am	1:20pm	1:50pm	2:20pm	Curvature and Topology <b>Jamie Bell, University of Wollongong</b>	Parameterising Heat Diffusion Equations in 2D/3D Geometries <b>Luke Filippini, Queensland University of Technology</b>
11:40am	1:40pm	2:10pm	2:40pm	<b>BREAK</b>	
				<b>Zoom Room 1</b>	
			<b>Chair</b>	<i>Angela Coughlin, AMSI</i>	
12:20pm	2:20pm	2:50pm	3:20pm	Guest Speaker: Careers <b>Professor Tim Marchant, AMSI Director</b>	
1:00pm	3:00pm	3:30pm	4:00pm	<b>CONFERENCE WRAP UP &amp; PRIZE ANNOUNCEMENTS</b>	