

AMSIConnect 2023 program

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

Wednesday 8 February 2023

3:30 pm	Group 1 arrives – Transfer from airport to University College for interstate students
4:30 pm	Group 2 arrives – Bus transfer from airport to University College for interstate students
6:30 pm	DINNER at University College (optional for Melbourne based students)

Conference Day 1 – Thursday 9 February 2023

Venue: Old Arts Building 149, The University of Melbourne, Parkville

09:40 am	REGISTRATION	
10:00 am	WELCOME – AMSI	
	<i>Room 155 – Old Arts</i>	
10:10 am	Guest Speaker: Life as a Researcher Dr Nadezda (Nadia) Sukhorukova, Swinburne University	
10:40 am	Guest Speaker: Life as a PhD Student Alex Lee, Swinburne University	
11:10 am	Group photo	
11:20 am	MORNING TEA	
	<i>Room 103 – Old Arts</i>	<i>Room 155 – Old Arts</i>
Chair	<i>Jian He, Monash University</i>	<i>Alex Lee, Swinburne University</i>
	Pure/Theoretical	Applied
12:00 pm	Knots and Combinatorics Oscar Eden, Monash University	Advanced Optimisation Techniques to the Variable-Sized 2-dimensional Bin Packing Problem Xiaojuan He, Deakin University
12:20 pm	Higher-Dimensional Self-Similar Actions Amelie Skelton, The University of Sydney	Design and analysis of bilevel optimisation algorithms Tran Khanh Hung Giang, The University of Sydney
12:40 pm	Writing A GAP Package for Local Action Diagrams Marcus Chijoff, The University of Newcastle	Randomization Techniques for Large-Scale Optimization Xiaoyu Li, The University of New South Wales
1:00 pm	An investigation into properties of the Closeness Centrality of a graph Yuqi Liu, The University of New South Wales	Optimal Control in Stochastic Hydrodynamic Models: Rowing Across the Indian Ocean Michael Nefiodovas, The University of Western Australia
1:20 pm	LUNCH	

Room 155 Zoom link

<https://unimelb.zoom.us/j/89996853921?pwd=aks1NjZMRytoWC9yNTB4eXdFNjMydz09>

Room 103 Zoom link

<https://unimelb.zoom.us/j/87854811486?pwd=R2dIUZzWIMybVIRVXBXZVQ3Rm42Zz09>

Speaker bios & project summaries: www.vrs.amsi.org.au/current-projects

Conference Day 1 Continued – Thursday 9 February 2023

Venue: Old Arts Building 149, The University of Melbourne, Parkville

	<i>Room 103 – Old Arts</i>	<i>Room 155 – Old Arts</i>
Chair	<i>Hugh Entwistle, Macquarie University</i>	<i>Stephan Tornier, The University of Newcastle</i>
	Statistics	Applied
2:00 pm	Prophet Inequalities Joel Denning, Macquarie University	Dynamical System Approach to Modelling of Electromagnetic Stirring Rakindu Wickramarathne, Swinburne University of Technology
2:20 pm	Limit theorems for the Curie- Weiss-Potts model Huateng Zhu, Monash University	Modelling Chemical and Biological Clogging of Permeable Reactive Barrier when Treating Acidic Groundwater Lucy Dowdell, The University of Newcastle
2:40 pm	Improving the Prediction of Patient Outcomes via Integration of Clinical Information with Genome-wide Data Jecinta Jaarola, Curtin University	Modelling the dynamic response of a rail track with rubber inclusion Josiah Murray, The University of Newcastle
3:00 pm	Deep Learning Surrogates for Accurate and Fast Bayesian Inference for Complex Mathematical Models Dang Tran, Queensland University of Technology (*VIRTUAL*)	Investigating spontaneous symmetry breaking of spatial Kerr solitons in fractional spatial dimensions using Fourier spectral methods Brenton Horne, University of Southern Queensland
3:20 pm	AFTERNOON TEA	
	<i>Room 103 – Old Arts</i>	<i>Room 155 – Old Arts</i>
	Pure/Theoretical	Applied
Chair	<i>Yuri Nikolayevsky, La Trobe University</i>	
3:40 pm	Geometry of 1-parameter subgroups of Lie groups Soprom Meng, La Trobe University	Effective magnetic properties of composites Anna Carpenter, The University of Newcastle
4:00 pm	Geometric Partial Differential Equations on Lie Supergroups Benjamin Kruger, The University of Queensland	Image compression using convolutional networks Sarah Kawaguchi, Western Sydney University
4:20 pm	Nonlocal Interactions in Physics and Biology Joshua Troy, The University of Western Australia	Moving through word embedding space Gabriel Schussler, Western Sydney University
4:40 pm	The Riemann-Roch Theorem and Dirac Operators Tiernan Cartwright, The University of Sydney	Utilizing side information to improve peptide identification in MS/MS data Temana Short, The University of Sydney
5:00 pm	Walk to University College	
5:30pm	AMSIConnect Trivia at University College	
6:30 pm	DINNER at University College	

Room 155 Zoom link

<https://unimelb.zoom.us/j/89996853921?pwd=aks1NjZMRytoWC9yNTB4eXdFNjMydz09>

Room 103 Zoom link

<https://unimelb.zoom.us/j/87854811486?pwd=R2diYUZzWlMybVlRVXBXZVQ3Rm42Zz09>

Speaker bios & project summaries: www.vrs.amsi.org.au/current-projects

Conference Day 2 – Friday 10 February 2023

Venue: Old Arts Building 149, The University of Melbourne, Parkville

	Pure/Theoretical	Statistics
	<i>Room 103 – Old Arts</i>	<i>Room 155 – Old Arts</i>
<i>Chair</i>		
09.40 am	Metric Properties of Continued Fractions Lauren White, La Trobe University	Predicting Stock Price Volatility within a Month– A Functional Data Analysis Approach Runqiu Fei, The University of Melbourne
10.00 am	The Category of Dessins d’Enfants: Investigating Monomorphism and Epimorphisms Thomas Dee, The University of Adelaide	Non-stationary dynamics of climate statistics and its visualization Yihong Mei, James Cook University
10:20 am	The Category of Dessins d’Enfants: The Existence of a Topos Lachlan Schilling, The University of Adelaide	Capturing the impact of patient variability in a novel cancer treatment using Bayesian inference Mikaela Westlake, Queensland University of Technology
10:40 am	The Category of Dessins d’Enfants: Exploring the Euler Characteristic Paawan Jethva, The University of Adelaide	Properties of Random Walks and their applications to Mathematical Physics Liam Wood-Baker, Monash University
11:00 am	MORNING TEA	
	<i>Room 103 – Old Arts</i>	<i>Room 155 – Old Arts</i>
<i>Chair</i>		
	Pure/Theoretical	Applied
11:40 am	Supercritical Percolation Cluster of Independent Bond Percolation of the Hypercube Jack Mills, Monash University	Analysis of Humpback Whale Songs using Information Theory Techniques Macey Lawson, The University of Adelaide
12:00 pm	Long Run Behaviour of Infinite Pólya Urn Models Jiani Xie, The University of Melbourne	Mathematical modelling and simulation of stress fibers in living cells Timothy Ryall, The University of Queensland
12:20 pm	Supersymmetric quantum mechanics and the Witten index Yixiang Wang, The University of Melbourne	Neural Networks for Identification of Genetic Variants Affecting Gene Regulation Patrick Grave, The University of Melbourne
12:40 pm	Onset of turbulence in channel flow Yixin Kang, Macquarie University	Climate Sensitivity Modelling Yawei Chen, The University of Adelaide
1:00 pm	LUNCH & best presentation voting	
	<i>Room 155 – Old Arts</i>	
<i>Chair</i>	<i>Angela Coughlin, AMSI</i>	
1:40 pm	Guest Speaker: Careers Professor Tim Marchant, AMSI Director	
2:15 pm	Conference Wrap Up & prize announcements	
2:30pm	Airport bus transfer for interstate students	

Room 155 Zoom link

<https://unimelb.zoom.us/j/89996853921?pwd=aks1NjZMRytoWC9yNTB4eXdFNjMydz09>

Room 103 Zoom link

<https://unimelb.zoom.us/j/87854811486?pwd=R2diYUZzWIMybyVIRVXBXZVQ3Rm42Zz09>

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