

## 3.04 AMSI OPTIMISE

26–30 June 2017, Monash Conference Centre, Melbourne

The Institute's newest networking and research training event, AMSI Optimise aims to strengthen mathematical research engagement and its applications across industry.

Opened by Victoria's Lead Scientist, Dr Amanda Caples, this exciting addition to AMSI's flagship training program aims to strengthen collaboration between industry practitioners, academics and postgraduate students working in optimisation. This year's launch conference provided insights into cutting edge optimisation research while opening avenues for networking. Featuring a three-day conference and two-day workshop, the

event made considerable impact in its first year. A series of presentations on topics including utilities, logistics and current optimisation practices with industry challenges stimulated vigorous discussion over the first three days, along with panel discussions and hands-on sessions. This was followed by a two-day workshop exploring routing, radiotherapy, scheduling, continuous optimisation, healthcare, optimisation of data analysis, stochastic MIP and other applications.

Other events included a poster session by participants in the APR Intern program. Networking events included the conference dinner and drinks.

OPTIMISE.AMSI.ORG.AU

Director: Prof. Andreas Ernst, Monash University

### EVENT PARTICIPATION

- 108** Attendees (83 registered participants plus 25 speakers)
- 30%** Female participants
- 43%** Undergraduate and postgraduate students
- 7%** Early career researchers
- 25%** Industry

### PARTICIPATION SUPPORT

- 2** Students from member universities received AMSI Travel Grants
- 2** Female attendees received Choose Maths Grants to support their participation

*“AMSI's Optimise conference is a fantastic opportunity for industry to connect with optimisation experts and together solve key business problems and identify new ways to drive efficiency. The conference will highlight the growing importance of optimisation, lead to new industry research collaborations, and grow our capabilities by providing postgraduate students with opportunities to apply their skills to real-world problems.”*

**Dr Amanda Caples, Lead Scientist, Victorian State Government**

## Conference Speakers

### Plenary talks

Speaker	Organisation	Talk Title
Prof. Steve Wright	University of Wisconsin-Madison, USA	Some optimisation problems in electrical power systems
Prof. Roberto Cominetti	Universidad Adolfo Ibáñez, Chile	Optimisation in data analysis: survey and recent developments
Prof. Alejandro Jofré	Universidad de Chile, Chile	Optimisation and games in transportation
Dr Guoyin Li	The University of New South Wales	Optimal convergence rates for Krasnoselskii-Mann fixed-point iterations
Prof. María García de la Banda	Monash University	Stochastic optimisation and game theory on energy markets
		Some recent advances in polynomial optimisation
		Better support for combinatorial optimisation problem modellers

### Conference Talks

Speaker	Organisation	Talk Title
Dr Ross Gawler	Monash Energy Materials and Systems Institute	Optimisation in deregulated electricity markets: Australian experience
Mahes Maheswaran	WaterNSW	Water supply optimisation
Prof. Peter Stuckey	The University of Melbourne & NICTA	Automatic logic-based benders decomposition with MiniZinc
Dr Geoffrey Brent	Australian Bureau of Statistics	Optimisation applications at the Australian Bureau of Statistics
Prof. Mohan Krishnamoorthy	Monash University	Operations research: for and with industry
Dr Michael Forbes	The University of Queensland	Electric vehicle routing
Prof. Xiaodong Li	RMIT University	Seeking multiple solutions: multi-modal optimisation using niching methods
Dr Hamish Waterer	The University of Newcastle	Evaluating the impact of maintenance on the throughput capacity of Australian coal chains
Dr Rodolfo García-Flores	CSIRO Data61	Optimisation for the livestock industry in northern Australia
Dr Hamideh Anjomshoa and Dr Olivia Smith	IBM Research Australia	Case study: South African health worker allocation