Royal Society of NSW

Report on the first event of the Hunter Branch (January 2020)

A joint public lecture was held as part of the Mathematics in Industry Study Group (MISG) and was supported by the Hunter Branch of the Royal Society of NSW, the University of Newcastle, the Australian and New Zealand Industrial and Applied Mathematics, Division of the Australian Mathematical Society, and the NSW Chief Scientist and Engineer Conference Sponsorship Program.

The Hunter Branch of the Royal Society of New South Wales organised its first public lecture in 2020 on Friday 31 January. The speaker at the public lecture was Professor Ryan Loxton from the School of Electrical Engineering, Computing, and Mathematical Sciences, Curtin University. The title of his lecture was *Mathematics in Industry: Optimisation in Action – Unlocking Value in the Mining, Energy, and Agriculture Industries*. The lecture was a successful event attracting an audience of over 70 including members of the Royal Society of NSW, senior executives and academics from the University of Newcastle, participants from the MISG Workshop, industry sector, government staff, university students and a general public audience. In his lecture, Prof Loxton stressed the importance of mathematics in order to develop a reliable predictive model for various industrial applications. Without the underlying mathematics, computer programing used in optimisation will not be possible to capture the complex essence of many aspects of industrial operations. Feedback from the audience was overwhelmingly positive with strong support for the Hunter Branch of the Royal Society of NSW to organise more of these types of lecture which promote science and in particular mathematics and its connection to real-world problems.

The Chair of the Hunter Branch of the Royal Society of NSW, Mr Paul Jeans (Chancellor, University of Newcastle), gave an opening address and introduced our guest speaker, Professor Ryan Loxton.

Our speaker, Professor Ryan Loxton from Curtin University, told us about some of the challenges facing mining, energy and agriculture industries and how mathematics has been used to develop optimisation tools for these industries.

Q & A time - —sitting in the very front row was Professor Alex Zelinsky, Vice-Chancellor and President, the University of Newcastle and a Fellow of the Royal Society of NSW.

Some of the audience at the Hunter Branch's first public lecture on Friday 31st January 2020 at Newcastle's City Hall.