



Associate Professor Andrew Mason has been active in the New Zealand Operations Research community since his first ORSNZ Conference in 1988 which he attended while an undergraduate in the School of Engineering. At this meeting he was awarded the Student Paper prize for a paper on using matching algorithms in stereo speaker manufacturing. Following this he completed a PhD at Cambridge University before returning to Auckland to take up an academic position in the Department of Engineering Science in 1992. Since then, he has risen through the ranks at the University of Auckland where he now holds the position of Associate Professor.

Andrew's research has several themes. He is a skilled computer programmer and has produced successful open-source software packages such as OpenSolver and SolverStudio. These are tools that enable the integration of large-scale mixed integer programming packages into Excel spreadsheets that avoid the default size settings of the Excel Solver as well as providing more robust and numerically stable implementations of linear and mixed integer optimization algorithms. OpenSolver has had over 600,000 downloads since 2010, and SolverStudio has had 11,000 downloads. Andrew was awarded the CoinOR Cup by INFORMS in 2011 for OpenSolver.

Andrew has also developed state-of-the-art staff rostering software (used by Air New Zealand and New Zealand Customs), fibre-optic cable network design software (used by Telstra in their fibre deployment in Auckland, Wellington and Christchurch) and ambulance scheduling software (implemented by his startup Optima Corporation which was eventually sold to a US-based corporation). He was part of the Coka Coders team that came third in the 2019 Verolog Challenge. In all his work Andrew has focused on the end-user's problem and produced enduring and successful solutions. These are the finest exemplars of Operations Research success.

Andrew's latest focus is leading a spearhead project in the Science for Technological Innovation National Science Challenge. This project, Te Tātari Raraunga - Analytics to identify and connect successors to whenua, is creating smart data analytics tools in collaboration with Parininihi ki Waitotara to help track down rightful Māori shareholders to connect them to their land. Andrew's work uses clever OR techniques (such as dynamic programming) to sift through noisy and often corrupted data sources to deduce genuine relationships between various Māori individuals and their whakapapa. Although the outcomes of this work have yet to be fully realized, Andrew's work has received some publicity on National Radio, and promises to yield some important publications for him in future years.

Through his work with OpenSolver, Andrew has established an enviable international reputation. He publishes consistently in high impact journals, and is a popular speaker at INFORMS meetings. His papers are cited regularly in the international literature (125 Google cites per year) attesting to their relevance. Locally his talks are always a highlight of ORSNZ conferences, and his students always produce work of a high quality. Many of his students have pursued advanced degrees at overseas universities and gone on to have eminent careers.

It is hard to think of any individual who has made a greater contribution to the ORSNZ. Since his first conference in 1988, Andrew has been an enthusiastic advocate of the Society. Andrew was President of the ORSNZ from 2008 till 2013, instituting many improvements to the Society to ensure its relevance and longevity. He designed and built the first web site for ORSNZ, and maintained this selflessly for many years, updating it with the latest conference information, latest newsletters, photographs and names of prize winners, and creating an archive of the Society's history. Andrew was also a founding member of the New Zealand Analytics Forum, a group that has grown to 2000 members since its inception in 2013.

The time has come to acknowledge all of these contributions and recognize the excellent work that Andrew has sustained over the last 30 years, by awarding him the 2022 Hans Daellenbach Award.