



Kiwi mathematicians converging to solve tough industry challenges

The combined power of New Zealand's best and brightest mathematicians will be harnessed to solve significant business challenges at New Zealand's first Mathematics-in-Industry event, 29th June to 3rd July 2015 at Massey University, Albany.

Successfully implemented in 20 countries worldwide, these intensive week-long workshops offer a collaborative environment to solve problems arising in industry. Scientists participate from a range of mathematical disciplines such as dynamic systems, statistics, and operational research.

This unconventional model sees companies paying \$6000 each up-front for the rare opportunity to have their meatiest challenges tackled by mathematicians from across the country.

New Zealand businesses that have participated and challenges solved in the past, include:

- Transpower – Optimising electricity distribution networks
- Fonterra – Modelling and optimising the cheese maturation processes.
- Fisher & Paykel – Washing machine balancing through dynamic system modelling
- Compac Sorting Equipment Ltd – Optimal control algorithms for sorting fruit.

The inaugural New Zealand event is championed by Professor Emeritus Graeme Wake of Maths-in-Industry New Zealand (MINZ). Professor Wake has been involved in the concept since his time as a Postdoctoral Fellow in Oxford where it was first launched.

Professor Wake is passionate about the impact of applied maths noting, "These events are often the launch pad for long term partnerships between mathematicians and businesses, powering up innovation within industry".

Compac Sorting Equipment is a keen supporter of the concept, having seen the power of Mathematics in Industry in action. Compac's R&D Manager, Nigel Beach comments, "The support of the math group helped us transform how we sort products into fixed weight packaging. This avenue was fast, effective and productive for our team."

Global dairy giant, Fonterra, has been involved in the last three Mathematics-in-Industry events in Australia. Fonterra's Calibration Technologist, Jo Simpson comments, "The support of the math group increased our confidence in the procedures we have in place met or exceeded international best practice. This event is an efficient process to have a large group of experts looking at a specific industry issue."

New Zealand mathematicians and businesses have previously taken part in joint events run by the Australia and New Zealand Industrial Applied Mathematics (ANZIAM). Professor Wake comments, "Kiwi businesses have previously had to travel across the Tasman to participate in these events, but now we are running this event right in our back yard."

The New Zealand initiative is supported by the Centre for Mathematics-in-Industry in Massey University, ANZIAM (ANZ Industrial and Applied Mathematics Group), KiwiNet (NZ's national

network of Universities and Crown Research Institutes and Entities), Te Pūnaha Matatini (a CoRE in Complex Systems and Networks at University of Auckland), Callaghan Innovation and the Mathematical Sciences Group of the School of Computer and Mathematical Sciences, AUT University.

Dr Bram Smith, General Manager of the Kiwi Innovation Network (KiwiNet) believes the model is highly compelling. Smith comments, "There is a wealth of world leading mathematics capability in Universities and Crown Research Entities across New Zealand that are hungry to solve industry problems. It's great to see mathematicians working together to provide this creative new approach to drive business innovation".

Professor Wake is expecting at least six businesses from across NZ to participate with 80 plus mathematicians, a number of whom will be postgraduate students. Attendance is free of charge for participating mathematicians. A summary and technical report will be prepared with aim of future publication in the ANZIAM Journal Series E.

"Mathematics-in-Industry is an extremely powerful and effective initiative to solve industry challenges. It enables businesses to focus on operations and lets mathematicians focus on what they do best – solve industry problems," notes Professor Wake.

To register your attendance, visit www.minz.org.nz

To find out more, contact:

Graeme Wake DSc FRSNZ, Professor Emeritus of Industrial Mathematics
Institute of Natural and Mathematical Sciences, Massey University
Principal - Wakes' Scientific Consulting (Wakescience)
Mobile: +64 (0) 27 441 8247
Email g.c.wake@massey.ac.nz

Seumas McCroskery
Innovation Manager, KiwiNet
Mobile: +64 (0) 21 617 752
Email: seumas@kiwinet.org.nz

About MINZ

www.minz.org.nz

About KiwiNet

The Kiwi Innovation Network (KiwiNet) comprises universities and crown research institutes and agencies working together to increase the scale and impact of scientific and technology based innovation in New Zealand. KiwiNet's role is to empower those involved in research commercialisation by helping them access the tools, connections, investment and support they need. By working together, KiwiNet aims to better leverage the combined capability of NZ research organisations and help each other to achieve greater commercial outcomes for New Zealand. KiwiNet partner organisations include WaikatoLink, Plant & Food Research, Otago Innovation Ltd, Lincoln University, AUT Enterprises, AgResearch, University of Canterbury, Callaghan Innovation, Viclink, Landcare Research, Cawthron Institute, ESR, NIWA and Scion. Principal support is also provided by the Ministry of Business, Innovation & Employment (MBIE).

www.kiwinet.org.nz