MICHAEL (MICK) G. ROBERTS

Mick Roberts, Professor in Mathematical Biology at Massey University's Albany campus, is an internationally-recognised expert on the mathematical modelling of infectious diseases. Using modern methods of mathematical analysis, he aspires to understand the epidemiology of infectious diseases and to develop models that explain why pathogens have evolved to have their present characteristics and how the human population can avoid epidemic outbreaks.

His collaborators in this work are various and, probably pleasantly for Mick (and for Lyndell, who is able to take advantage of her partner's peregrinations), are spread around the world. Oxford, Cambridge, Utrecht, Princeton, Nancy, Oberwolfach, Canberra, Wellington and Dunedin have all featured on his flightplans, and many still do. Mick has more than 100 "quality-assured" publications, including 63 refereed papers and more than 20 book chapters, with another 20 or so unpublished reports from his days with AgResearch.

Mick began his university study at the University of Bristol, with a BSc in Aeronautical Engineering. He went on to the Cranfield Institute of Technology, taking out an MSc in Applicable Mathematics, and then moved to NZ to complete the trifecta with a PhD from VUW, under the guidance of John Harper (on geophysical fluid mechanics and continental drift).

After about 20 years with AgResearch at Wallaceville, Dr Roberts joined Massey University in 2003 as an Associate Professor of Mathematics in the Institute of Information and Mathematical Sciences, on Massey's Albany campus. His teaching and research activity immediately impressed, and it was not long until he was promoted to Professor. Mick's enthusiasm and his approachable attitude have allowed him to attract postdoctoral fellows, and PhD and Masters students, to work with him and other colleagues on this seriously-useful application of mathematics to improve the human condition.

SARS reared its ugly head in 2002, and Mick was asked to help by the World Health Organisation. But this was not the first time. In 1996, as a researcher in the Wallaceville Animal Research Centre in Upper Hutt, Mick developed a model for the NZ Ministry of Health and successfully predicted the 1997 measles epidemic. A control policy that was initiated in response to the model was able to swiftly contain the epidemic. Predictions that epidemics would recur unless the timing of the second measles vaccination was changed from 11 years to 5 years old resulted in the re-timing of the vaccination schedule. Why do we not hear the trumpeting of this excellent success in the use of Mathematics?

Then in 2001 was the outbreak of Foot and Mouth Disease in the UK. Such words strike terror in the hearts of NZ farmers and livestock produce processors. Mick's measles model was held up in the UK as a case study of a successful use of modelling in such circumstances. BSE, sheep nematodes, Tb in possum populations, brucellosis in bison, hydatids in NZ and French dogs and sheep: all have been subjected to Mick's modelling and analysis and all these organisms have come out worse off. Better for us, no?

At least the funding agencies are able to discern quality. Mick has gained grants for the FRST PGSF for 1995–6, 1996–7 and 1999–2003. The MoH has come across with money for measles, pertussis (whooping cough), smallpox, SARS and influenza modelling in just about every year since 1996. Mick obtained grants from AgResearch (possum dynamics), the Animal Health Board (possums and ferrets), the Otago Regional Council (rabbits, what else?), Biosecurity Ltd (sheep measles) and MAF (risk analysis methodology).

His professional qualifications include CMath, FIMA Chartered Mathematician and Fellow of the Institute of Mathematics and its Applications (UK). He is a member of NZMS, ANZIAM and the European Society for Mathematical and Theoretical Biology.

Mick has served the NZMS particularly well. He has recently finished a stint as President 2004–5; he was VP for a 2003, and was again for 2006. Mick was a Council member 1994–2000 and Treasurer 1996–2000 and was the AgResearch Honorary Corrrespondent to the NZMS Newsletter for many years.

It is therefore appropriate that the latest recognition of Mick's research prowess has come from the Society, with the NZMS Research Award for 2006 being presented at the last NZ Mathematics Colloquium.

Just before that award was made, a Centre for Mathematical Biology was established at Albany, with Mick as Director. It has already attracted a number of postgraduate students and looks set to grow its activities (see http://iims.massey.ac.nz/research/CMB/).

Those at Massey University will attest that they are pleased and honoured to have Mick on board. But the greater thing is that Mick is working away at what he does, to benefit us all.

Robert McKibbin

Massey University

Figure 1: Mick receives the NZ Mathematical Society Award for Mathematical Research at the Colloquium last year.