
The New Zealand Association of Scientists Awards for 2009

The Marsden, Shorland and Research Medals and the Science Communicator Award were presented by the Minister for Research, Science and Technology, the Hon Dr Wayne Mapp, on Thursday, 12 November, at a ceremony at Turnbull House, Wellington.

Minister Mapp addressed the audience and discussed priorities for research, science and technology in New Zealand, including the review being undertaken of CRIs. He stressed that science must be a central plank of the Government's strategy to achieve its economic goals. Science is seen by the present Government as an investment rather than as a cost. The Minister emphasised that science must be about excellence, and about impact – in scientific, and in human and social terms.

To round out the evening, Professor Sir Peter Gluckman (the Prime Minister's Chief Science Advisor) echoed those sentiments, and underlined the obligation that the science community has to inform the public at large about the work they do, and in particular to educate the young about the value and importance of the scientific endeavour.

Marsden Medal

The Marsden Medal is awarded for a lifetime of outstanding service to the cause or profession of science, in recognition of service rendered to the cause or profession of science in the widest connotation of the phrase.

The recipient for 2009 is **Dr F J Davey FRSNZ**, Researcher Emeritus, Institute of Geological and Nuclear Sciences Ltd (GNS Science).



Dr Fred Davey is a marine geophysicist who has made an outstanding contribution to our knowledge of the geological structure and evolution of the New Zealand region and the Antarctic during the past forty years. This contribution has been through his very successful leadership and organisation of national and international research projects and through his participation in national and international science committees. His research projects have resulted in internationally recognised contributions to a wide range of earth science research.

Dr Davey has made a significant contribution to research nationally, as Director of the former Geophysics Division, DSIR, then as General Manager - Research for GNS Science, and as Chairman of the RSNZ Committee on Antarctic Sciences. Internationally he has contributed as elected Secretary and Vice-President of the ICSU Scientific Committee on Antarctic Science (SCAR), on which he has represented New Zealand in various roles for over thirty years.

He was elected a Fellow of the RSNZ in 1991, and awards include a RSNZ Science and Technology Silver Medal, and the New Zealand Antarctic Medal.

Dr Davey set up the first comprehensive marine geophysical capability in New Zealand in the 1970s, and documented

the broad geological structure of the New Zealand continental plateau. Subsequently, he used advanced seismic techniques to study the structure and deformation of the plate boundary through New Zealand. He led major international collaborative investigations in the South and North Islands which defined the style of deformation in the crust and upper mantle and the role of fluids in deformation occurring at plate boundary collision zones, and provided basic information for quantifying resources and hazards of these regions.

In Antarctica, his internationally collaborative research focused on understanding the structure and tectonic history of the Ross Sea region and its glacial history. This discovered the major sedimentary basins in the Ross Sea, and documented their complex history of rifting and the onset and development of the Antarctic ice sheet in the region.

Shorland Medal

The Shorland Medal is awarded in recognition of major and continued contribution to basic or applied research that has added significantly to scientific understanding or resulted in significant benefits to society.

The recipient for 2009 is **Professor Alan B. Kaiser FRSNZ**, School of Chemical and Physical Sciences, Victoria University of Wellington.

Professor Kaiser has for many years investigated the electronic properties of several types of novel conducting material, ranging from conducting plastics to glassy metals, magnetic materials to superconductors, with a particular focus on understanding the conduction processes. Most recently he has researched graphene (a layer of carbon atoms only one atom thick, thought not to exist in nature until recently), and carbon nanotubes (tiny tubes of rolled-up graphene), both of which have great potential for carbon-based electronics. His publications have been widely used by other authors, and he has received numerous invitations to give talks at international conferences. He also has helped develop New Zealand's international science links, collaborating with researchers in many countries, and organising the first Korea–NZ Symposium on Advanced Materials and Nanotechnology in 2003 (and co-organising another in 2007).



Research Medal

The Research Medal of the New Zealand Association of Scientists is awarded for outstanding fundamental or applied research in the physical, natural or social sciences published by a scientist under the age of 40, during the year of the award or the preceding three calendar years. The recipient for 2009 is **Dr Thomas Buckley**, Landcare Research.

Dr Buckley's research focuses on systematics, biogeography, speciation, molecular evolution and phylogenetic methods. Study organisms include stick insects, cicadas, fungus-feeding beetles, tortricid moths, earthworms, wetas, onychophorans and terrestrial molluscs. He is particularly interested in the biogeographic origins of the New Zealand biota and evolutionary processes within New Zealand. His interests in systematics also include taxonomy, where he is revising the New Zealand stick insect fauna using morphology and genetics. He is also involved in a range of conservation genetics projects on highly threatened invertebrates including terrestrial molluscs, and tussock and giant weta. He maintains interests in methods of sequence analysis with an emphasis on likelihood estimation, Bayesian estimation, model selection, tests of topology and coalescent models. Newly developed research directions include transcriptomics and functional genomics of adaptations to environmental stress in stick insects.



Science Communicator Award

The Science Communicator Award is made to a practising scientist for excellence in communicating science to the general public in any area of science or technology.

The recipient for 2009 is **Professor Ian Shaw**, University of Canterbury.

There are few things that Ian Shaw likes better than talking about science, cooking and eating so when he can combine the three he is in his element. His research field is the effects of chemicals in food on health and so he often finds himself in front of an audience combining at least two of his three enthusiasms. Ian is particularly keen to talk science to non-scientists – in this context he likes to use everyday examples as a vector for science facts. What better vector than food? A reviewer of his book *Is it safe to eat?* (Springer 2005) commented 'It is written in a style that is both readable and readily understood, so it should also appeal to a much wider audience' and 'This is a most readable book'. The book was made into a TVNZ series of the same name; it involved an episode on risk being shot with Ian in the lion's cage at Orana Park in Christchurch, and Ian commented that risk had never been so meaningful before!. The series reached a wide audience when it was shown on SkyTV. He also writes for newspapers and is often asked to comment on science issues on the radio. He loves teaching his students at the University of Canterbury and won the Student Association's Top Science Lecturer Award this year. The award citation commented, 'He makes science fun', which sums up exactly what Ian aspires to...but along with the fun there are important facts and ideas.

