

New Zealand Association of Scientists Awards 2016

Marsden Medal 2016

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

This year's Marsden Medal is awarded to **Distinguished Professor Margaret Brimble CNZM FRSNZ** from the School of Chemical Sciences at the University of Auckland (m.brimble@auckland.ac.nz).

Professor Brimble is internationally recognised for her world-leading contributions to the synthesis of bioactive natural products and novel peptides with wide-ranging applications across the life sciences industry. This is best illustrated by the discovery of a new drug (trofinetide/NNZ2566) for Rett Syndrome, a rare neurodevelopmental disorder that affects females and for Fragile X Syndrome, an inherited cause of intellectual disability especially among boys.

Trofinetide has acquired orphan drug and fast track status from the US Food and Drug Administration. Bringing a drug to market is a unique achievement. Professor Brimble has also established a cGMP peptide chemistry laboratory accredited by Medsafe NZ to manufacture clinical grade peptides for a melanoma vaccine clinical trial (MELVAC).



Professor Brimble has carved out a formidable international scientific reputation by publishing very high-quality papers, and by achieving landmark goals which has been widely recognised by a number of international awards. She has published more than 460 papers and is named as an inventor on 30 patents. Professor Brimble has supervised 100+ graduate students (including >60 PhD) and established NZ's first and only Medicinal Chemistry degree drawing on her interests in bioactive molecules which were the targets for much of her synthetic chemistry research. She is a speaker in high demand at international conferences.

She is involved in a wide range of national and international activities including journal and grant agency committees including ERC), professional committees, RSNZ groupings etc., that reach well beyond her formal disciplinary expertise.

She is Chair of the Rutherford Foundation, and President IUPAC Organic and Biomolecular Division having served as President of the International Society Heterocyclic Chemistry, a Marsden Fund Councillor and RSNZ Academy Councillor.

She is an outstanding ambassador for women in science, New Zealand and science generally, engaging generously with the general public, students and media to explain the complex nature of the drug discovery process and its benefits to the global community.

Shorland Medal 2016

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 2016 Shorland Medal is awarded to **Professor Antony Braithwaite** from the Dunedin School of Medicine at the University of Otago (antony.braithwaite@otago.ac.nz).

Professor Antony Braithwaite graduated with First Class honours in Cell Biology from the University of Auckland in 1978 and completed a PhD in Microbiology at ANU in 1983.

After a post-doctoral Fellowship at ANU, he was awarded a Howard Florey Fellowship at the Marie Curie Cancer Institute in England to research the p53 tumour suppressor protein.

Subsequent to his return to ANU as a Senior Research Fellow, Antony was appointed a Research Professor in the Pathology Department at the University of Otago in 1996.

Professor Braithwaite continues as a leading cancer researcher with a focus on the signalling pathways controlling cancer cell development and on p53 in particular. He has an extensive publication record in top ranked international research journals.

Professor Braithwaite continues to demonstrate leadership in research within the Department of Pathology where he currently leads a team of about 15 experienced and emerging researchers and students, and has developed collaborations with a number of researchers in the Dunedin School of Medicine and the Otago School of Medical Sciences.

Professor Braithwaite has served the national community as a key player in founding the Institutional Biological Safety Committee on which he served for 8 years, and serving 6 years with HRC Biomedical Research Committee, as well as with the HRC Maori Health Research Committee and the NZ Genetic Technology Advisory Committee.

He was elected a Fellow of the Royal Society of New Zealand in 2013 and awarded a James Cook Research Fellowship in 2015.

Beatrice Hill Tinsley Medal 2016 (replaces the NZAS Research Medal)

The **Beatrice Hill Tinsley Medal** is awarded for outstanding fundamental or applied research in the physical, natural or social sciences published by a scientist or scientists within 15 years of their PhD.

The inaugural Beatrice Hill Tinsley Medal is awarded to **Associate Professor Guy Jameson** from the Department of Chemistry at the University of Otago (gjameson@chemistry.otago.ac.nz).





Dr Jameson is a gifted biophysical chemist who has made outstanding contributions to the fields of biophysical chemistry and materials science. He is interested in the chemistry of metalloproteins - proteins that contain metal atoms or clusters – and his research involves spectroscopic and kinetic investigations of iron-containing enzymes and compounds. Dr Jameson is a recognised expert in Mössbauer spectroscopy and

has established the only low temperature Mössbauer instrument in New Zealand. He has the ability to apply kinetic and spectroscopic techniques to a wide range of compounds from proteins through to nanoparticles and inorganic polymers from volcanic ash. He also studies how high oxidation states, which play pivotal roles in catalysis, can be stabilised and how electron spin states can be controlled in molecular switches. A major goal is to understand the chemical basis of diseases, such as Parkinson's and rheumatoid arthritis, through studying enzymes at the molecular level and how their malfunction contributes to the progression of disease. Dr Jameson is a creative and imaginative researcher, who has established an international reputation in his field. Indeed, his peers consider him to be the 'go-to' person within Australasia for the advanced understanding of metal ion charge and spin state.

Science Communicator Medal

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

Professor Emerita Jean Fleming, now retired from the University of Otago, is a very worthy winner of the 2016 Science Communicator Medal (jean.fleming@otago.ac.nz)

Now retired, Professor Fleming spent over twenty years in the University of Otago, communicating her passion for science as an academic teacher and researcher. Her desire to inspire young people into science led to long-term involvement in Otago's Hands-On Science summer camp, the NZ International Science Festival, and the Association for Women in the Sciences. She convened the Suffrage Centennial Science Conference in 1993, the first national conference for women scientists held in New Zealand.



In 2008 she joined the Centre for Science Communication at Otago, where she supervised 25 MSciComm students and two PhD students on topics ranging from the effectiveness of rap to communicate science, to use of automata to teach mechanisms. Jean is known nationally for her public speaking and for seven years of regular radio interviews on Body Parts, and on Radio NZ 'Nights' programme.