

Professor Alan G MACDIARMID

Citation

Professor Alan G MacDiarmid is no ordinary scientist. He is the 2000 Nobel Laureate for Chemistry and the International Scientist for the year 2001. But he is more. He has a big heart for humanity and an insatiable appetite for new discoveries.

Prof MacDiarmid's life is a storybook success. It is an outstanding example for young people today. He grew up in grinding poverty in New Zealand, where a hot bath was his only weekly luxury, and where, rain or shine, he walked to school barefooted. As a boy, he earned money first with his own early morning milk round and later his evening paper route. But he is in possession of two secret ingredients to his success: a loving family and an inquiring mind. Prof MacDiarmid soared to the sky on the wings of both.

He considers his home life growing up in New Zealand to have been the single most important factor in his later success. Hardship taught him to be self-reliant. He learned to do the best with his God-given abilities. He taught himself chemistry by borrowing a library book called "The Boy Chemist" which he continuously renewed for a year until he understood its content and carried out most of its experiments.

Unlike some world-class scientists, Prof MacDiarmid loves teaching and continues to do so until this day, at the young age of 79. He is a perfect professor for the university community with his twin interest in teaching and research.

Prof MacDiarmid has two qualities much admired and practiced by Chinese people: He never forgets his roots, keeping in touch with his native New Zealand and people back home even though he moved to the US in the mid-1950's. He values his close-knit family and the importance of interpersonal relationships. He believes that "science is people" and that the pursuit of science occurs most productively through discussion of ideas with one's colleagues. That explains why his greatest triumphs have been collaborative efforts. He was a co-winner of the Nobel Prize in chemistry with a Japanese fellow chemist and an American physicist. He believes in inter-disciplinary collaboration, seizing on ideas wherever he finds them. A true egalitarian, he respects the people who work on his team, not "for" him, but "with" him. Thus he has been able to get the most out of his assistants who completely identify with the objective of his research.

Prof MacDiarmid has been called the father of "synthetic metals". His discovery in the field of conducting polymers has far-reaching applications to our information age, as it is closely related to the development in molecular electronics which will dramatically increase the speed and reduce the size of our computers. His creation of nanomaterials leads to the development of the new field of "nanoelectronics". It has opened up world-wide research in chemistry and physics on the interrelationships between the chemistry, the structure and the electronic properties of semiconducting materials. The technological

applications of these materials are numerous and diverse, from rechargeable batteries, corrosion inhibition, to stealth technology.

In recent years, Prof MacDiarmid has been actively involved in research into various types of renewable energy, especially bio-ethanol and bio-diesel. Given the recent sharp spikes in fuel prices and the shortage of fuel supply, his scientific work is both timely and of vital importance to the global economy.

Born in New Zealand, but with allegiance to the world at large, he has participated in the establishment of laboratories across four continents — in his native New Zealand, USA, Korea, Brazil, India, and most interestingly for us, in China. He continues to extend his benevolent global influence through the non-profit MacDiarmid Institute for Global Research Excellence.

Prof MacDiarmid has a truly international education, with degrees from the University of New Zealand, the University of Wisconsin in the US and Cambridge University in England. A former Fullbright Scholar, he holds the James Von Her Distinguished Chair in Science and Technology at the University of Texas at Dallas and the Blanchard Chair in chemistry at the University of Pennsylvania. He is the recipient of countless awards and honorary degrees, and the author of over 600 research papers and 20 patents. To his fellow scientists, he is a tip-top interdisciplinary scientist. To the rest of the world, he is an international humanist who works wonders with ordinary substances like wood or farm waste. He is a friend of the earth, and a hero to its inhabitants.

Mr Pro-Chancellor, on behalf of the Council of the Hong Kong University of Science and Technology, I have the honor to present Prof Alan G MacDiarmid, a Nobel Laureate in chemistry, for the award of Doctor of Science *honoris causa*.