

Paper 2.0 – making smart paper from plastic molecules

How unexpected discoveries lead to new technologies

Imagine watching videos on a paper-thin screen which can be rolled and put in your pocket, or projecting documents from a smart phone onto a flexible screen for easy reading. What if you could cover your lounge with a 'wallpaper' screen, powered by the light coming through the window? These revolutionary technologies may not be confined to our imaginations for much longer. Sir Richard Friend, the 2012 Royal Society of New Zealand Distinguished Speaker, has pioneered the study that allows organic polymers, normally fashioned into plastic, to take on the electronic properties utilised in digital displays and solar cells.

In his talk, Richard Friend tells the story of the unplanned discoveries and breakthroughs that have led to the development of this extraordinary technology. His talk will take us from the basic research on plastic semiconductors and the realm of quantum mechanics through to his experiences of the commercialisation of his team's ideas as part of the high-technology cluster which has built up around Cambridge University in the UK.

Sir Richard Friend FRS

2012 Royal Society of New Zealand Distinguished Speaker

Sir Richard Friend has pioneered the study of organic polymers and the electronic properties of molecular semiconductors. His work has led to the development of LEDs and photovoltaic cells and used to develop flat panel displays and screens. He is a founder of Cambridge Display Technology Ltd, the leading developer of commercial display technology based on polymer light emitting diodes. He is also co-founder of the spin-off company, Plastic Logic which is developing flexible electronic displays on plastic sheets. More recently, he co-founded a company to develop low cost flexible solar cells, Eight19.

Sir Richard Friend is the Cavendish Professor of Physics at Cambridge University, a position once occupied by Ernest Lord Rutherford. He was knighted for services to physics in 2003.



the ROYAL
SOCIETY of
NEW ZEALAND
TE APĀRANGI

Christchurch 6pm Wednesday 10 October

Aurora Centre, cnr Greers Road and Memorial Avenue, Burnside, Christchurch

Auckland 6pm Thursday 11 October

Auckland Museum Events Centre, The Domain, Parnell, Auckland (entry via the Southern Entrance, car parking available in the Domain and also in the Museum underground car park)

Hamilton 7.30pm Friday 12 October

Dr John Gallagher Concert Chamber, Gallagher Academy of Performing Arts, University of Waikato Campus, Hamilton (Gate 2b on Nighthon Road)

Dunedin 6pm Monday 15 October

College of Education Auditorium, Union Street East, Dunedin

Wellington 6pm Tuesday 16 October

Ilott Theatre, Wellington Town Hall, Wakefield Street, Wellington (entry via Town Hall Foyer)