

## Statement: Professor Alison Downard

I am happy to be a candidate for Vice President in the ISE because the position brings the opportunity to use my enthusiasm for electrochemistry, my international connectedness and my knowledge of the Society (gained through my service as Division 1 Chair), to work towards further enhancement of the ISE's role. I have always been impressed by the willingness of the ISE to evolve and change to better serve the electrochemistry community and I hope I can contribute to that effort.

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## Curriculum Vitae

Department of Chemistry

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### Tertiary Education:

- B.Sc. (Hons) (Chemistry) 1st Class - University of Otago, New Zealand, 1979
- Ph.D. (Chemistry) - University of Otago, New Zealand, 1984

### Employment:

- Professor (2009-present), Associate Professor (2005-2008), Senior Lecturer (1995-2004) and Lecturer (1988-1994) Department of Chemistry, University of Canterbury
- Postdoctoral Research Associate, Department of Chemistry, UNC-Chapel Hill, USA (1986-1987)
- Postdoctoral Fellow, Department of Chemistry, The University, Southampton, England (1985)

### Recent Professional Appointments, Awards and Service:

- 2016: co-chair, 19th Topical Meeting of the International Society of Electrochemistry, 17-20 April, Auckland, New Zealand
- 2015: Past Chair, Chair (2013-2104) and Chair-elect (2011-2012) of Division 1 (Analytical Electrochemistry) of the International Society of Electrochemistry

- 2014: elected Fellow of the Royal Society of New Zealand
- 2014: R. H. Stokes medal of the Electrochemical Division of the Royal Australian Chemical Institute: for distinguished research in the field of electrochemistry carried out mainly in Australasia
- 2014: Docteur Honoris Causa, Université de Rennes 1, France
- 2014: Honorary Professor, Qilu University of Technology, Jinan, Shangdong Province, China
- 2014-2016: Member of the Advisory Board of *Electrochimica Acta*
- 2013-2015: Deputy Director, Stake Holder Engagement, MacDiarmid Institute for Advanced Materials and Nanotechnology, a New Zealand centre of Research Excellence
- 2002-present: Principal Investigator with the MacDiarmid Institute for Advanced Materials and Nanotechnology

### **Research:**

Electrochemistry, with a nanotechnology focus. Major themes are:

- surface modification to give chemically well-defined surfaces; chemically modified nanomaterials for applications in energy conversion and storage; surface structuring and patterning at the nanoscale; electrochemical and advanced microscopy characterization of surface layers
- electrochemistry as a green chemistry alternative in industrial processes, particularly in New Zealand's primary industries (wool, meat and dairy products).

Current research projects include:

- Functionalization of graphene for new supercapacitor architectures
- Surface modification of technologically important metal oxides
- Tailored electrode surfaces for enhanced functionality
- Surface modification of metals for medical applications

### **Publications:**

124 refereed journal articles; 1 book chapter; *h-index*: 37