

Associate Professor Anthony O'Mullane



Qualifications: BSc Chemistry, PhD Electrochemistry (University College Cork, Ireland)

Current appointment: Associate Professor, Queensland University of Technology (QUT)

Relevant employment history:

Australian Research Council Future Fellow and Senior Lecturer, RMIT University (2011-2013)

Vice-Chancellor Senior Research Fellow, School of Applied Sciences, RMIT University (2011)

Research Fellow, School of Applied Sciences, RMIT University (2008-2011)

CSIRO, Molecular and Health Technologies, Research Scientist (2007-2008)

Monash University, Postdoctoral Research Fellow (2004-2007)

University of Warwick, UK, Postdoctoral Research Fellow (2002-2004)

TUD, Germany, Postdoctoral Research Fellow (2001-2002)

Current research areas

My research group focuses on the electrochemical synthesis and detailed characterisation of metallic, metal oxide and semiconducting nanostructured materials and their application as electrocatalysts, photocatalysts and sensing layers. I am also interested in the investigation of liquid metals, room temperature gas sensing and Li metal batteries in ionic liquid based electrolytes. I have 138 publications with 120 of them as peer reviewed papers in international journals. Citation data: 2825 with h index of 33 (Google scholar).

Professional Memberships, Fellowships and Leadership positions

Chair of the Electrochemistry Division of the Royal Australian Chemical Institute (RACI) (2013-)

Member, CChem, Fellow of the RACI

Fellow of the Royal Society of Chemistry (FRSC)

Member of the International Society of Electrochemistry (ISE)

Associate Editor of RSC Advances

Co-guest editor for a special issue of *Electrochimica Acta* based on the 19th Topical ISE meeting

QUT University Academic Board and Curriculum Standards Committee (2015-)

Enabling Platform Leader of Manufacturing with Advanced Materials, Institute for Future Environments, QUT

Member of the Australian Technology Network

Awards

RACI Citation award for contribution to chemistry and the chemistry profession (2015)

Awarded the John A. Brodie medal which is given for the paper selected by the Board of the College of Chemical Engineers as the best in the discipline, published in 'Chemical Engineering in Australia' in the last 12 months, or presented at that year's Chemeca Conference (2010)

Example publications

Basile, A., Bhatt, A. I., O'Mullane, A. P., Stabilising lithium metal using ionic liquids for long lived batteries, **Nature Communications**, 2016, 7, 11794.

Sayeed, M. A., Herd, T., O'Mullane, A. P., Direct electrochemical formation of nanostructured amorphous $\text{Co}(\text{OH})_2$ on gold electrodes with enhanced activity for the oxygen evolution reaction, **Journal of Materials Chemistry A**, 2016, 4, 991.

Pearson, A., O'Mullane, A. P., Nanoparticle-electrode collisions as a dynamic seeding route for the growth of metallic nanostructures, **Chemical Communications**, 2015, 51, 5410. Emerging Investigator issue that profiles the best international research being undertaken by scientists in the earlier stages of their career.

O'Mullane, A. P., From single crystal surfaces to single atoms: Investigating active sites in electrocatalysis, **Nanoscale** (Invited Feature Article) 2014, 6, 4012.

Motivation statement for the position of chair-elect of Division 7 Physical Electrochemistry

I have been actively involved in electrochemistry since my PhD in 2001 and thoroughly enjoy contributing to the wider research community via contributing to professional bodies, publishing and reviewing. I have been a member of the ISE for over 10 years and particularly value being a member of this truly international society. I have welcomed the opportunities to engage with the ISE such as involvement in topical and student satellite meetings, chairing the judging panel for the ISE Green Electrochemistry Prize and co-guest editing a special issue

of *Electrochimica Acta*. However, I believe participating in the Divisional structure will offer even greater ways to contribute to the ISE in a more meaningful manner. There has been a recent upsurge in electrochemical research in Australia and New Zealand as evidenced by the creation of the Australia and New Zealand Region and therefore I aim to continue this momentum if successful and work closely with the Regional Representative. In an international context I am particularly keen in identifying emerging topics in the Physical Electrochemistry area and liaising with other Divisions on topics of similar interests whether that occurs at the Annual or Topical meetings of the ISE. I am also passionate about getting younger electrochemists engaged with valuable professional societies such as the ISE and would look for ways to develop and sustain relationships with the younger cohort of the membership as well as promoting the benefits of membership of the ISE as widely as possible.