**Electrochemical Reduction of Carbon Dioxide**

Jie Zhang

School of Chemistry

Monash University, Australia

**Abstract:**

Sustainable technologies focused on carbon dioxide utilisation are essential if we are to shift to new sources of energy supply and mitigate climate change. Among technologies developed so far, those based on electrochemistry, which utilize electricity from intermittent renewable sources as the energy input, are particularly attractive since they offer excellent scalability for industrial implementation. Commercially feasible electrochemical processes for carbon dioxide utilisation require the use of highly stable and active catalysts to overcome high energy barriers associated with the relevant reactions. A major obstacle in designing advanced catalysts is the immature understanding of the mechanisms and activity associated with the complex catalytic reactions. This talk highlights the recent progress in electrocatalyst design and characterization by the Monash Electrochemistry Group.

**Short bio of the speaker:**

Dr. Jie Zhang received a BSc degree in 1992 from Fuzhou University and a PhD degree in 2002 from the University of Warwick, UK. He is currently an associate professor and Future Fellow at the School of Chemistry, Monash University and a chief investigator at the Australian Research Council Centre of Excellence for Electromaterials Science. His current research mainly focuses on the development of advanced electrochemical techniques and corresponding quantitative theories and electrocatalysis for energy applications. He has published 6 book chapters, 7 international patents and more than 200 refereed journal articles. His work has received more than 3500 citations with an H index of 33 based on the Web of Science.