

22<sup>nd</sup> International Conference and Expo on**NANOSCIENCE AND MOLECULAR NANOTECHNOLOGY**

November 06-08, 2017 | Frankfurt, Germany

**John Zhu***School of Chemical Engineering, The University of Queensland, Brisbane, Australia***Novel 3D heterostructured catalysts for highly efficient oxygen reduction in solid oxide fuel cells**

Solid oxide fuel cells (SOFCs) can effectively convert the chemical energy of fuels into electricity at an efficiency up to 60%. They typically operate at high temperature (800-1000°C) resulting in high costs, materials compatibility and durability challenges. Developing SOFCs that can work at intermediate temperature (500-750°C) has thus been attracting considerable attentions. The performance of the cathode is the largest hurdle to the full realization of low temperature SOFCs. In this talk, we will introduce our recent studies on 3D Heterostructured Catalysts for highly efficient oxygen reduction reaction in SOFCs.

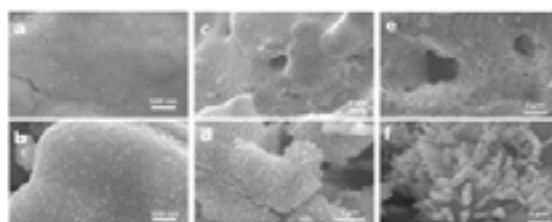


Figure 1 SEM images of the LN shell on BSCF scaffold prepared in different conditions.

**Biography**

Prof Zhu's research interests exist in advanced catalysis, gas/liquid adsorption and separation, direct carbon fuel cells and solid oxide fuel cells. His publications include one edited book, 8 book chapters, and over 220 journal papers. He holds 6 patents, 3 patents have been licensed to the industrial sponsor. He has raised a total research funding from government and industries in excess of \$20 million. He is the recipient of a number of awards, including RK Murphy Medal 2013, Freehills Award IChemE 2011, 2nd place Innovator of the Year Award Global IChemE 2011, the University of Queensland (UQ) Foundation Research Excellence Award in 2007.

[z.zhu@uq.edu.au](mailto:z.zhu@uq.edu.au)**Notes:**