

## **Presentation Title: 'From Bioclimatic Architecture to Beyond Zero Carbon Buildings'**

Name: Scientia Professor Deo Prasad AO

Affiliation CEO, CRC for Low Carbon Living, Sydney, Australia

We have come a long way from the early explorations into bioclimatic architecture and passive solar design days (or have we??). The fundamentals of research in terms of performance including climate sensitivity, orientations, glass, mass and insulation mix in achieving thermal comfort has moved on to include visual, acoustic, IAQ and other parameters. The focus on new materials (life cycle based sourcing), technologies, tools and techniques have all evolved and the journey is still by no means complete. The more recent focus on high performance and beyond zero carbon/energy (positive development) has been even more interesting a journey with a long way ahead. Has practice kept pace with research? Has education played an adequate role in narrowing the gap between research and practice? What does it mean for future buildings in terms of both improving performance and enhancing architectural quality? How the different pathways for low rise residential versus high rise commercial (and others in between) have implied different levels of research focus and engagement with practice – evidence based design versus experience based design? Have we focused enough on 'occupants' understanding and behavior (are we still having two Star people living in five star buildings?)? Do we adequately understand up scaling issues from individual buildings to precincts with many buildings (can we get better planned precincts where decentralized generation, storage and 'smarts' can help deliver the best solutions)? This talk aims to map out 'where from and hence where to' in architectural solutions.