

4<sup>th</sup> World Congress and Exhibition on  

# Construction & Steel Structure

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**Future trends in the design and construction of steel and composite infrastructure**

This presentation looks at trending technologies and techniques in the design and construction of steel and composite infrastructure. This presentation focuses on the broad categories of bridge and building infrastructure and the past, present and future practices. In particular the issue of the reduction, reuse, recycling and rethinking (4 R's) as it applies to the use of steel in steel and composite infrastructure will be addressed. Particular focus of this presentation is looking at connections in steel and composite infrastructure in addressing the 4 R's. In addition the issue of advanced materials, particularly for steel and concrete for beams, columns, joints, slabs and systems will be a focal point for the paper. The presentation concludes with some salient examples of these advances as they have been addressed in American, Australian and European Codes of Practice.

**Biography**

Brian Uy is the Professor of Structural Engineering and Director of the Centre for Infrastructure Engineering and Safety (CIES) in the School of Civil and Environmental Engineering at The University of New South Wales in 2013. He has co-authored over 600 publications including over 150 journal articles. He has been involved in research in steel and composite structures for over 20 years. He is the Chairman of the Standards Australia Committee BD32 on Composite Structures; which is currently preparing the Australian/New Zealand Standard AS/NZS2327 on composite structures for buildings. He has been the Chairman of the Australia Regional Group of the Institution of Structural Engineers since 2012 and the Chairman of the Australia Group of the International Association for Bridge and Structural Engineering (IABSE) since 2015. He is the Chief Editor (Asia-Pacific) for Steel and Composite Structures and serves on the Editorial Board of *Journal of Constructional Steel Research* and *Advanced Steel Construction*. He also currently serves on the American Institute of Steel Construction (AISC) Task Committee 5 on Composite Construction and the IABSE Working Commission 2 on Steel, Timber and Composite Structures.

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