



**Professor Brian Uy**



**Fig. 12 Typical short column failure from test series**

From: Brian Uy, Mahbub Khan, Zhong Tao and Fidelis Mashiri, "Behaviour and design of high strength steel-concrete filled columns", The 2013 World Congress on Advances in Structural Engineering and Mechanics (ASEM13), Jeju, Korea, September 8-12, 2013

Professor Brian Uy: CPEng, CEng, PE, FIEAust, FICE, FIStructE, FASCE

See:

<http://www.cies.unsw.edu.au/news/new-incoming-director-for-cies-professor-brian-uy>

<https://au.linkedin.com/in/brian-uy-7a771862>

[https://www.researchgate.net/profile/Brian\\_Uy](https://www.researchgate.net/profile/Brian_Uy)

<https://www.youtube.com/watch?v=c2DFgrS58Ek>

<https://scholar.google.com/citations?user=e0fny58AAAAJ&hl=ja>

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**Previous:**

University of New South Wales (UNSW), Australia

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**Biography** (from the UNSW Centre for Infrastructure Engineering and Safety (CIES), 21 March 2013: Brian Uy was recently appointed as 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 after serving as Professor of Structural Engineering and the Foundation

Director of the Institute for Infrastructure Engineering at the University of Western Sydney during 2012. Brian replaces Professor Stephen Foster who has taken up the position of Head of the School of Civil and Environmental Engineering at UNSW. Brian was previously Professor and Head of the School of Engineering and the Director of the Civionics Research Centre at the University of Western Sydney from 2007-2011 and was a member of the Australian Council of Engineering Deans; Australian Deans of Built Environment & Design and one of three Australian Members of the Global Engineering Dean's Council during that period. Brian was a member of the Australian Research Council (ARC) College of Experts for Engineering and Environmental Sciences from 2007 - 2009, which provides advice on research funding and excellence to the Australian Government and he recently served on the Selection Advisory Committee for the ARC Australian Laureate Fellowships from 2011-2012. Appointed a Professor of Structural Engineering and Head of the School of Civil, Mining and Environmental Engineering at the University of Wollongong from 2004-2007, he has also held academic and consulting roles at Imperial College of Science Technology and Medicine, London; National University of Singapore; Ove Arup and Partners (now ARUP); Wholohan Grill and Partners (now WorleyParsons) and Wargon Chapman and Partners (now Hyder). Currently he is Chairman of the Standards Australia Committee BD32 on Composite Structures and a member of BD90 on Bridge Structures which are developing standards on Steel and Composite Structures for buildings and bridges respectively. He has been the Chairman of the Australia Regional Group of the Institution of Structural Engineers since 2012 which represents over 500 members in Australia and 27,000 members worldwide and he serves on its Council and the Sustainable Construction Panel meeting three times per year in London. Brian is a chartered engineer in Australia, the UK and USA and regularly provides higher level consulting advice and certification for major national manufacturing and infrastructure companies and for forensic/expert witness purposes for many of Australia's leading legal practices. Involved in research in steel-concrete composite structures for over 20 years, Brian has co-authored over 500 publications including over 140 journal articles. Much of this research has been underpinned by competitive grant funding from most of the ARC granting schemes and from industry totalling over \$22 million Australian dollars. Brian serves on the editorial boards of eleven international journals for structural engineering and is Chief Editor (Asia-Pacific) for Steel and Composite Structures. He is also a significant contributor to international codes of practice in steel and composite construction and currently serves on the American Institute of Steel Construction (AISC) Task Committee 5 on Composite Construction and the American Society of Civil Engineers (ASCE) –Structural Engineering Institute (SEI), Technical Committee on Composite Construction. Back at his alma mater where he commenced his undergraduate studies in civil engineering some 25 years ago and where he also served on academic staff from 1999-2004, Brian is looking forward to leading CIES together with its illustrious group of Directors (Professors Bradford (Research), Ian Gilbert and Chongmin Song (Deputies)). He sees the role of Director as espousing the concepts of excellence and growth and would like to draw on his previous academic/industry relationships developed over the last decade at Wollongong and Western Sydney to increase the breadth and diversity of the research and engagement activities within CIES and the School.

### **Selected Publications:**

- Uy, B, Bradford, MA. Local buckling of thin steel plates in composite construction: experimental and theoretical study. Proc. Instn Civ. Engrs. Structures and Buildings 1995; 110: 426-440.
- Uy, B. and Bradford, M.A. (1996) "Elastic local buckling of steel plates in composite steel-concrete members". Engineering Structures, 18(3), pp. 193-200, 1996.
- Uy, B. (1998) "Local and post-local buckling of concrete filled steel welded box columns". Journal of Constructional Steel Research, 47(1-2), 47-72.
- Liang, Q.Q. and Uy, B. (1998). Parametric study on the structural behaviour of steel plates in concrete-filled fabricated thin-walled box columns, Advances in Structural Engineering, 2 (1), 57-71.

- Uy, B. (1999) "Axial compressive strength of steel and composite columns fabricated with high strength steel plate". Proceedings of the Second International Conference on Advances in Steel Structures, Hong Kong, 421-428.
- Uy, B. (2000) "Strength of short concrete filled steel box columns incorporating local buckling", Journal of Structural Engineering, ASCE, 126(3), 341-352.
- Liang QQ, Uy B. Theoretical study on the post-local buckling of steel plates in concrete-filled box columns. Computers and Structures 2000; 75(5): 479-490.
- Uy, B. (2001a) "Axial compressive strength of short steel and composite columns fabricated with high strength steel plate", Steel and Composite Structures, 1(2), 113-134.
- Uy, B. (2001b) "Strength of short concrete filled high strength steel box columns", Journal of Constructional Steel Research, 57,113-134.
- Bradford, M.A., Loh, H.Y. and Uy, B. (2002), "Slenderness limits for circular steel tubes", Journal of Constructional Steel Research, 58(2), 243-252.
- Uy, B. and Liew, J.Y.R. (2002) Composite steel-concrete structures, Chapter 51 Civil Engineering Handbook, CRC Press, (edited by W.F. Chen and J.Y. Richard Liew).
- Uy, B., Mursi, M. and Tan, A. (2002) "Strength of slender composite columns fabricated with high strength structural steel", ICASS '02 Third International Conference on Advances in Steel Structures, Hong Kong, December, 575-582.
- Liang QQ, Uy B, Wright HD, Bradford MA. Local and post-local buckling of double skin composite panels. Proc. Instn Civ. Engrs. Structures and Buildings 2003; 156(2): 111-119.
- Liang QQ, Uy B, Wright HD, Bradford MA. Local buckling of steel plates in double skin composite panels under biaxial compression and shear. Journal of Structural Engineering, ASCE 2004; 130(3): 443-451.
- Mursi, M and Uy, B. (2004) "Strength of slender concrete filled high strength steel box columns", Journal of Constructional Steel Research, 6 (12), 1825-1848.
- Y.L. Pi, M.A. Bradford, B. Uy, 'Nonlinear analysis of members curved in space with warping and Wagner effects', Int. Journal of Solids & Structures, 42, pp. 3147-3169, (2005).
- Mursi, M and Uy, B. (2006a) "Behaviour and design of fabricated high strength steel columns subjected to biaxial bending, Part 1: Experiments", International Journal of Advanced Steel Construction, Hong Kong Institute of Steel Construction, 2(4), 286-315.
- Mursi, M and Uy, B. (2006b) "Behaviour and design of fabricated high strength steel columns subjected to biaxial bending, Part 2: Analysis and design codes", International Journal of Advanced Steel Construction, Hong Kong Institute of Steel Construction, 2(4), 316-354.
- Liang QQ, Uy B, Liew JYR. Nonlinear analysis of concrete-filled thin-walled steel box columns with local buckling effects. Journal of Constructional Steel Research 2006; 62(6): 581-591.
- Y. Pi, M. Bradford, B. Uy. Second order nonlinear inelastic analysis of composite steel-concrete members. II: Applications. Journal of Structural Engineering, Vol. 132(5), 762-771, 2006.
- Qing Quan Liang, Brian Uy and Jat Yuen Richard Liew, "Local buckling of steel plates in concrete-filled thin-walled steel tubular beams", Journal of Constructional Steel Research, Vol. 63, no. 3, pp 396-405, March 2007
- Z. Tao, Z.B. Wang, L.H. Han, B. Uy, Fire performance of concrete-filled steel tubular columns strengthened by CFRP, Steel Compos. Struct., 11 (4) (2011), pp. 307-324
- B. Uy, Z. Tao, L.H. Han, Behaviour of short and slender concrete-filled stainless steel tubular columns, J. Constr. Steel Res., 67 (3) (2011), pp. 360-378
- Brian Uy, Mahbub Khan, Zhong Tao and Fidelis Mashiri, "Behaviour and design of high strength steel-concrete filled columns", The 2013 World Congress on Advances in Structural Engineering and Mechanics (ASEM13), Jeju, Korea, September 8-12, 2013
- H.T. Thai, B. Uy, M. Khan, Z. Tao, F. Mashiri, Numerical modelling of concrete-filled steel box columns

incorporating high strength materials, *J. Constr. Steel Res.*, 102 (2014), pp. 256–265

Farhad Aslani, Brian Uy, Stephen Hicks and Won-Hee Kang, “Spiral welded tubes – imperfections, residual stresses, and buckling characteristics”, Eighth International Conference on Advances in Steel Structures, Lisbon, Portugal, July 22-24, 2015

F. Aslani, B. Uy, Z. Tao, F. Mashiri, Behaviour and design of composite columns incorporating compact high-strength steel plates, *J. Constr. Steel Res.*, 107 (2015), pp. 94–110

F. Aslani, B. Uy, Z. Tao, F. Mashiri, Predicting the axial load capacity of high-strength concrete filled steel tubular columns, *Steel Compos. Struct.*, 19 (4) (2015), pp. 967–993

G. Vasdravellis (1), B. Uy, E.L. Tan and B. Kirkland, “Behaviour and design of composite beams subjected to sagging bending and axial compression”, *Journal of Constructional Steel Research*, Vol. 110, pp 29-39, July 2015

Huu-Tai Thai, Brian Uy and Mahbub Khan, “A modified stress-strain model accounting for the local buckling of thin-walled stub columns under axial compression”, *Journal of Constructional Steel Research*, Vol. 111, pp 57-69, August 2015

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Farhad Aslani, Brian Uy, James Hur and Paolo Carino, “Behaviour and design of hollow and concrete-filled spiral welded steel tube columns subjected to axial compression”, *Journal of Constructional Steel Research*, Vol. 128, pp 261-288, January 2017