



Professor Jerome F. Hajjar

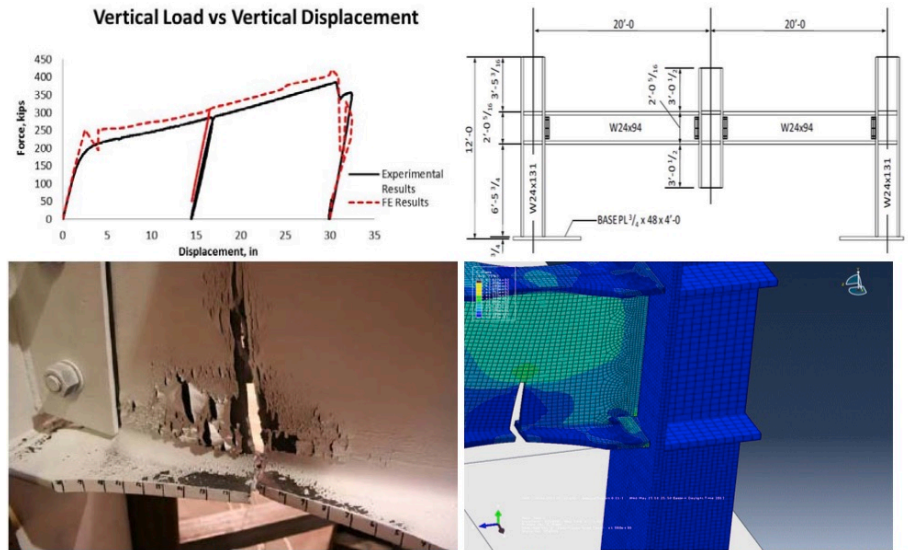


Figure 4: Force-displacement plot of validation results versus experimental (upper left), the experimental layout of RBS sub-assembly frame with central column loaded in a downward direction (upper right), fracture location in the reduced beam section during experiment (lower left), and FEM simulation results (right) with contours representing von Mises stress (Sadek et al. 2010)

From: Vitaliy V. Saykin, Tam H. Nguyen, Jerome F. Hajjar, Derya Dinez and Junbo Song, “Validation of a finite element approach to modeling of structural collapse of steel structures”, DOI: 10.1061/9780784413357.190 , ASCE Structures Congress, April 2014

See:

- <http://www.civ.neu.edu/people/hajjar-jerome>
- <http://www1.coe.neu.edu/~jfhajjar/home/jfhajjar.htm>
- <https://camd.northeastern.edu/architecture/people/jerome-hajjar/>
- <https://scholar.google.com/citations?user=IFvryBIAAAAJ&hl=en>
- https://www.researchgate.net/profile/Jerome_Hajjar

Director of Laboratory for Structural Testing of Resilient and Sustainable Systems (STRSS)
Civil and Environmental Engineering
Northeastern University, Boston, Massachusetts, USA

Biography:

Jerome F. Hajjar is the CDM Smith Professor and the Department Chair in the Department of Civil and Environmental Engineering at Northeastern University. He is also the Director of the Laboratory for Structural Testing of Resilient and Sustainable Systems (STReSS Laboratory). He has served as Chair of the Structures Faculty and Deputy Director of the Mid-America Earthquake Center at the University of Illinois at Urbana-Champaign; was a faculty member at the University of Minnesota; and was a structural engineer and Associate at Skidmore, Owings & Merrill. Hajjar received a B.S. (1982) in Engineering Mechanics from Yale University and an M.S. (1985) and Ph.D. (1988) in Structural Engineering from Cornell University. His research and teaching interests include analysis, experimental testing, and design of steel and composite steel/concrete building and bridge structures, regional modeling and assessment of infrastructure systems, and earthquake engineering, and he has published over 190 papers and edited three books on these topics. Hajjar serves on the American Institute of Steel Construction (AISC) Committee on Specifications and several of its task committees, and is a member of the Executive Committee of the Technical Activities Division of the American

Society of Civil Engineers (ASCE) Structural Engineering Institute (SEI). He was made a Fellow of ASCE in 2007 and of SEI in 2013, and was awarded the 2010 Popular Mechanics Breakthrough Award, the 2009 ASCE Shortridge Hardesty Award, the 2005 AISC T. R. Higgins Lectureship Award, the 2004 AISC Special Achievement Award, the 2003 ASCE Walter L. Huber Civil Engineering Research Prize, and the 2000 ASCE Norman Medal for his research on steel structures, composite construction, structural stability. He has also won several teaching awards. Dr. Hajjar is a registered professional engineer in Illinois and Minnesota.

Education:

PhD, Structural Engineering, Cornell University, 1988
MS, Structural Engineering, Cornell University, 1985
BS, Engineering Mechanics, Yale University, 1982

Research Interests:

Steel and composite steel/concrete structures; earthquake engineering; structural stability; large-scale experimental testing of structures; regional simulation

Honors and Awards:

2016 ASCE Moisseiff Award
2015 BSCES Clemens Herschel Award
2013 SEI Fellow
2010 Popular Mechanics Breakthrough Award
2009 ASCE Shortridge Hardesty Award
2007 ASCE Fellow
2005 AISC T. R. Higgins Lectureship Award
2004 AISC Special Achievement Award
2003 ASCE Walter L. Huber Civil Engineering Research Prize
2000 ASCE Norman Medal

Selected Publications:

B.C. Gourley, C. Tort, J.F. Hajjar, P.H. Schiller, "A synopsis of studies of the monotonic and cyclic behaviour of concrete-filled steel tube beam-columns", Structural Engineering Report No. ST-01-4, Institute of Technology, University of Minnesota (2001)
Hajjar, J F 2002. Composite steel and concrete structural systems for seismic engineering. *Constructional Steel Research*, 59(58): 703-723.
Smith, B.H., S. Szyniszewski, J.F. Hajjar, B.W. Schafer, and S.R. Arwade. 2012, "Steel Foam for Structures: A Review of Applications, Manufacturing and Material Properties", *Journal of Constructional Steel Research* 71 (April): 1–10. doi:10.1016/j.jcsr.2011.10.028
S. Szyniszewski, B.H. Smith, J.F. Hajjar, S.R. Arwade, B.W. Schafer, "Local buckling strength of steel foam sandwich panels", *Thin-Walled Structures*, Vol. 59, pp. 11 – 19, October 2012
Szyniszewski S, Smith BH, Hajjar JF, Arwade SR, Schafer BW (2012) Local buckling strength of steel foam sandwich panels. *Thin-Walled Struct* 59:11–19
Szyniszewski, S., B.H. Smith, V.M. Zeinoddini, J.F. Hajjar, S.R. Arwade, and B.W. Schafer. 2012. "Towards the Design of Cold-formed Steel Foam Sandwich Columns." In 21st International Specialty Conference on Cold-Formed Steel Structures, pp.355–372. St. Louis, MO.
http://folio.jhu.edu/faculty_publications/Benjamin%20W._Schafer.

T. Takeuchi, J.F. Hajjar, R. Matsui, K. Nishimoto and I.D. Aiken, "Effect of local buckling core plate restraint in buckling restrained braces", *Engineering Structures*, Vol. 44, pp 304-311, November 2012

Tiziano Perea, Roberto T. Leon, Jerome F. Hajjar and Mark D. Denavit, "Full-scale tests of slender concrete-filled tubes: Axial behavior", *ASCE Journal of Structural Engineering*, Vol. 139, No. 7, July 2013

Szyniszewski S. T., Smith B.H., Hajjar J. F., Schafer B. W., Arwade S. R.: The mechanical properties and modeling of a sintered hollow sphere steel foam. *Materials and Design*, vol. 54, 2014, pp. 1083-1094.

Tiziano Peria, Roberto T. Leon, Jerome F. Hajjar and Mark D. Denavit "Full-scale tests of slender concrete-filled tubes: Interaction behavior", *ASCE Journal of Structural Engineering*, Vol. 140, No. 9, September 2014

Vitaliy V. Saykin, Tam H. Nguyen, Jerome F. Hajjar, Derya Dinez and Junbo Song, "Validation of a finite element approach to modeling of structural collapse of steel structures", DOI: 10.1061/9780784413357.190 , ASCE Structures Congress, April 2014

Mark D. Denavit, Jerome F. Hajjar, Tiziano Perea and Roberto T. Leon, "Stability analysis and design of composite structures", *ASCE Journal of Structural Mechanics*, Vol. 142, No. 3, March 2016