BENJAMIN WILLIAM SCHAFER

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EDUCATION

Ph.D. *Cornell University* (1995–1997). Structural Engineering, Minor: Theoretical and Applied Mech.

M.S. *Cornell University* (1993–1994). Structural Engineering

B.S.E. *University of Iowa* (1989–1993). Civil Engineering with Honors and Distinction

P.E. *Texas* (2007). License #99093

PROFESSIONAL

The Johns Hopkins University, Baltimore, MD

Dept. Chair Department of Civil Engineering. (July 2009 – Present)

Professor Department of Civil Engineering. (July 2010 – Present)

Assoc. Prof. Department of Civil Engineering. (July 2006 – June 2010)

Asst. Prof. Department of Civil Engineering. (July 2000 – June 2006)

Senior Engineer *Simpson Gumpertz & Heger Inc., Waltham, MA*
Engineering Mechanics and Infrastructure Division. (August 1998 – June 2000)

Postdoc *Cornell University, Ithaca, NY*
School of Civil and Environmental Engineering with Teoman Peköz (1997 – 1998)

HONORS

Chair *Swirnow Family Faculty Scholar – Johns Hopkins University* (2008 – Present)

Research *Power List – Structural Engineer Magazine* (2012)
Huber Research Prize – American Society of Civil Engineers (2010)
Faculty Fellowship – American Institute of Steel Construction (2006)
CAREER Award – National Science Foundation (2005)
Collingwood Prize – American Society of Civil Engineers (2003)

Teaching *Robert S. Pond, Sr. Excellence in Teaching Award – Johns Hopkins University (2004)*

Service *Outstanding Reviewer Award – ASCE Journal of Structural Engineering (2009)*
Dunn Family Award – from the JHU Student Council (2004)

RESEARCH

Funding

Active Projects:

- Uncertainty Quantification and Model Validation in Thin-Walled Structures: A Probabilistic Paradigm for Advancing Analysis-Based Design (coPI)
  National Science Foundation, 9/2012 – 8/2015, $147,137
  PI: Tootkaboni, UMass-Dartmouth
- US-Egypt Cooperative Research: Use of Cold-Formed Steel in Residential Housing (PI)
  National Science Foundation, 8/2011 – 7/2013, $125,000
- NEESR-CR: Enabling Performance-Based Seismic Design of Multi-Story CFS Structures (PI)
  National Science Foundation, 10/2010 – 9/2012, $920,000
  co-PI: Nakata, JHU, co-PI: Buonopane, Bucknell

Selected Completed Projects:

- Energy Dissipation and Buckling Mitigation Through the Use of Steel Foams (co-PI)
  National Science Foundation, 7/2010 – 6/2012, $340,000
  PI: Arwade, UMass-Amhert, co-PI: Hajjar, Northeastern
- Sheathing Braced Design of Wall Studs (PI)

American Iron and Steel Institute, 1/2007 – 8/2011, $188,727

- Intracellular mechanics and the role of the actin cap in cytoskeletal-nucleus mechanical response (PI)
  Institute for Nano Bio Technology, JHU, 7/2010 – 1/2011, $20,000
- CAREER: Structural Stability and Thin-walled Structures (PI)
  National Science Foundation, 5/2005 – 6/2010, $400,000
- AISC Faculty Fellowship: Cross-section Stability of Structural Steel (PI)
  American Institute of Steel Construction, 1/2006 – 8/2010, $120,000
- Interdisciplinary graduate research training program in Nanotechnology for Biology and Medicine (co-PI) *Howard Hughes Medical Institute*, 12/2005 – 11/2008, $1,000,000, PI: Wirtz, co-PIs: Stebe, Searson, Edidin, Hanes, Schafer, Sun, Ostermeier, JHU
- Stochastic Structural Stability (co-PI)
  National Science Foundation, 8/2005 – 9/2008, $380,000
  PI: Graham-Brady, JHU
- Direct Strength Method for the Design of Perforated Members (PI)
  American Iron and Steel Institute, 8/2005 – 9/2008, $120,000
- Cold-Formed Steel Design Guide for the Direct Strength Method (PI)
  American Iron and Steel Institute, 8/2003 – 9/2005, $20,000
- Experimental Study on Distortional Buckling of C and Z Members (PI)
  American Iron and Steel Institute, 5/2002 – 6/2004, $25,000
- Design of Structural Systems for Unforeseen Catastrophic Events (PI)
  National Science Foundation, 5/2003-6/2005, $100,000
  co-PI: Ghanem, JHU, now USC
- Historic American Engineering Record: Covered Wooden Bridge Studies (PI)
  National Park Service, 5/2002 – 12/2003, $19,250
- Hurricane Loss Reduction: Wind and Structural Engineering Initiative (PI)
  National Institute of Standards and Testing, 1/2003 - 6/2004, $78,785
  co-PI: Jones, UIUC, now JHU
- Decision-Theoretic Methodology for Performance-Based Structural Eng. (Sr. Res.)
  National Science Foundation, 5/2000 – 6/2003, $439,024
  PI: Igusa, JHU, co-PI: Naimain, JHU, co-PI: Ellingwood, GA Tech.
- Test Verification of the Effect of Stress Gradient on Webs of C and Z Sections (PI)
  American Iron and Steel Institute, 10/2000 – 6/2002, $60,000

Software Development

CUFSM

Continuously develop and maintain CUFSM, an open source program for elastic buckling of thin-walled members using the finite strip method. Researchers, students, and practitioners around the world use the software. Short courses on CUFSM have been conducted for code agencies and numerous academic groups. (www.ce.jhu.edu/bschafer/cufsm)

TEACHING

Undergraduate Courses

The Johns Hopkins University (2000 – Present)

560.320 Steel Structures. Spring 2001 (16[1]), '03 (16), '04 (7), '05 (14), '06 (5), '07 (18)
560.206 Theory and Mechanics of Structures. Spring 2005 (9)
560.141 Perspectives on the Evolution of Structures.
Fall '03 (30), Spr. '07 (52), '08 (32), '09 (75), '10 (77), '11 (78), '12 (53)
500.101 What is Engineering? Fall 2000 (29), '01 (26), '02 (17)

Cornell University (1997 – 1998)

CEE371 Structural Behavior. Spring 1998 (47)
CEE162 Modern Structures. Fall 1997 (60)

[1] number of students in the course

Graduate Courses

The Johns Hopkins University (2000 – Present)
560.786 Structural Reliability. Spring 2008 (13), Fall 2012 (18)
560.761 Cold-Formed Steel Structures. Spring 2009 (13), Fall 2011 (11)
560.760 Structural Stability. Spring 2002 (11), '04 (10), '06 (7), Fall '07 (6), '10 (10)
560.752 Structural Dynamics. Fall 2004 (4), '05 (4), '09 (12)
540.667 Engineering Modeling & Analysis of Biological Systems. 4 lectures Fall 2005 (15)

Short Course Lecturer

Full day short courses for practicing engineers
MBMA Slender Steel Workshop. (Cleveland – Summer 2011)
Dietrich Design Group Direct Strength Method Workshop. (Chicago - Summer 2010)
ICC-ES Direct Strength Method Workshop (Birmingham – Fall 2009)
MBMA Review of the 2007 AISI Specification. (Cleveland - Summer 2009)
ClarkWestern Direct Strength Method Workshop. (Atlanta - Spring 2009)
MBMA Direct Strength Method Workshop. (Nashville - Summer 2006)
Light Steel Framing and the Structural Engineer. (5 cities - Summer 2002).

Development

Technology Fellowship Program – JHU Center for Educational Resources
Digital Baltimore: Digital Database of Baltimore Structures (2004-5)
Interactive Case Studies for Teaching Structural Engineering (2003-4)

EXTERNAL SERVICE & ACTIVITIES

Outreach

Baltimore Polytechnical High School: Outreach to the Ingenuity Project and Research Practicum course: teaching basic engineering and technical writing. Sponsored students in my lab: summers of 2002-3 and the 2006-7, 2007-8, 2009-10 academic years.

Garrison Forest School/JHU WISE program: Faculty advisor in the Johns Hopkins Center for Educational Outreach Women in Science and Engineering (WISE) program partnered with Garrison Forest School. Hosted a WISE mentee in my lab in the 2011-12 academic year.

Basswood Bridge Competition Testing: State of Maryland 2003-6, Nationals 2004.

International Outreach

Egypt-United States Workshop on Use of Light Steel Framing in Residential Buildings, Giza, Egypt, 9-10 December 2012. Co-organized workshop, provided multiple talks.

Technical Committees

American Iron and Steel Institute (AISI)
Member of Comm. on Specifications for the Design of Cold-Formed Steel Structural Members[2] (Subcommittee member 1995 – 2000, Main Committee member 2000 – Present)
Member of Committee on Specifications for Cold-Formed Steel Framing[2] (Subcommittee member 2000 – 2005, Main Committee member 2005 – Present)

American Institute of Steel Construction (AISC)
Member of TC 4 – Member Design[2] (2008 – Present)
Member of TC 10 – Stability[2] (2012 – Present)

Cold-Formed Steel Engineers Institute (CFSEI)
President (2006), Board of Directors (2005 – 2008), Nominating Committee (2008 – Present)
Chairmen of Technical Review Committee (2005 – 2007), Member (2005 – Present)

Structural Stability Research Council (SSRC)
Vice-Chairmen (2009 – 2013), Executive Committee (2008 – Present)
Chairmen of TG 13 Thin-Walled Metal Construction (2003 – 2010)

American Society of Civil Engineers – Structural Engineering Institute (ASCE-SEI)
Chairmen of Cold-formed steel members. (2001-2005), Member (1997-2005, 2008-Present)
Control group of Compression and flexural members (2004-2007), Member (2001-Present)

American Society of Civil Engineers – Engineering Mechanics Institute (ASCE-EMI)
Member of ASCE-EMD committee on stability. (2001 – Present)

[2] These committees create the ANSI approved design standards for practicing structural engineers.

Assoc. Editor	*ASCE Journal of Structural Engineering* (2004 – 2008), Special Issue Editor (2011 – 2013)
Ed. Board	*Thin-walled Structures* *Journal of Constructional Steel Research* *International Journal of Steel Structures*
Proposal Panels	*National Science Foundation* CMMI: 2003 CAREER, 2005 General, 2011 NEES, 2012 MRI, 2012 CAREER
Site Review	*MAST Facility at University of Minnesota,* for National Science Foundation, December 2011
External Examiner	*University of Sydney (Ph.D.) – 3 dissertations* *Helsinki University of Technology (Ph.D.)* *McGill University (M.S.) – 3 dissertations*
Journal Reviewer	*ASCE Journal of Structural Engineering* *ASCE Journal of Engineering Mechanics* *AISC Engineering Journal* *Steel and Composite Structures* *Thin-walled Structures* *Journal of Constructional Steel Research* *International Journal of Steel Structures* *Canadian Journal of Civil Engineering* *Int'l J. for Numerical Methods in Eng.* *Structural Engineering & Mechanics* *Computers & Structures* *Transportation Research Record* *APT Bulletin* (Historic Preservation Journal)
Member	*American Society of Civil Engineers (ASCE)* (1991 – Present) *American Society of Engineering Education (ASEE)* (1997 – Present) *International Assoc. of Bridge and Structural Engineers (IABSE)* (1998-99, 2002 – Present) *Structural Stability Research Council (SSRC)* (2001 – Present) *Cold-Formed Steel Engineers Institute (CFSEI)* (2005 – Present)

INTERNAL (JOHNS HOPKINS) SERVICE & ACTIVITIES

Undergrad Academic Advisor	*Civil Engineering Class of 2012* (2008 – 2012) Advisor for the 16 students in the 2012 class. *Civil Engineering Class of 2004* (2001 – 2004) Advisor for the 12 structures students in the 2004 class. *General Engineering* Students: 2007 (1), 2010 (1), 2011 (1), 2012 (2)
Committee Work	*Johns Hopkins University* Gateway Sciences Initiative, Faculty Steering Committee (2011 – Present) *Whiting School of Engineering – Johns Hopkins University* International Affairs Advisory Committee (2006 – Present[3]) General Engineering Advisory Committee (2005 – Present[3]) Graduate Committee (2008 – 2010) Chair, JHU-Australia International Committee (2007 – 2009) Center for Leadership Education Program Oversight Committee (2007 – 2010) Committee on Undergraduate Programs (2005) Graduate Fellowships Selection Committee (2003) Committee on the Freshmen Year (2001 – 2002) Graduate Board Orals (several each year)
Department	*Department of Civil Engineering* Department Chair (2009 – Present). Prior to appointment as Chair participated fully in all activities, including IT, support for the lab, oversight of lab staff, annual safety review, adjunct coordinator for Senior Design, department qualifying examinations, thesis defenses, faculty search committees, graduate admissions, and other responsibilities as needed.
JHU Inst. Member	*Systems Institute, Environment, Energy, Health and Sustainability Institute* *Institute for NanoBio Technology*

[3] Current status of this committee (January 2012) not known, has not met in more than 1 year.

RESEARCH ADVISOR

Faculty *Visiting Faculty Scholars*

- Dr. Cristina Ganea (2013 – Present), Bucharest, Romania
- Dr. Lingfeng Yin (2012 – Present), Assoc. Professor, Southeast University, China
- Dr. Sandor Ádány (2012 – Present) (2003 – 2004), Professor, Budapest, Hungary
- Dr. Jinghai Gong (2010 – 2011), Associate Professor, Shanghai Jiao Tong Univ.
- Dr. Guozhi Qiu (2010 – 2011), Lecturer, Shanghai Jiao Tong Univ.
- Dr. Maged Hanna (2008 – 2009), Associate Professor, NHBRC, Egypt

Post-doc *Post-doctoral Scholars*

- Dr. Shahab Torabian (2012 – Present)
- Dr. Zhanjie Li (2010 – Present)
- Dr. Vahid Zeinoddini (2011 – 2012)
- Dr. Stefan Szyniszewski (2010 – 2012)
- Dr. Yared Shifferaw (2010 – 2012)
- Dr. Rachel Sangree (2006 – 2008), *Assoc. Res. Scientist* (2008 – 2010)

PhD *Graduate Students, PhD*

- Vahid Zeinoddini, PhD (2011), now consulting Engineer
- Luiz Vieira, PhD (2011), now Asst. Prof., Univ. of New Haven
- Zhanjie Li, PhD (2011), now post-doctoral scholar JHU
- Yared Shifferaw, PhD (2010), now Asst. Prof., Drexel University
- Mina Seif, PhD (2010), now Post-doctoral Scholar, NIST
- Cris Moen, PhD (2008), now Asst. Prof., Virginia Tech.
- Rachel Sangree, PhD (2006), now Instructor, JHU
- Cheng Yu, PhD (2005), now, Assoc. Professor, Univ. of North Texas
- Steve Buonopane, PhD (2003), co-advised w/ Tak Igusa, now Professor Bucknell
- Jiazhen Leng, PhD Candidate
- Kara Peterman, PhD Candidate
- Jean Batista, PhD Candidate
- Xi Zhao, PhD Candidate
- Hung Ngo, PhD Candidate

MS *Graduate Students, MSE* (Thesis Master's): Hannah Blum (2012), Badri Hiriyur (2004), Sarah Millsapps (2002)

Graduate Students, MCE/MSE (Coursework only): Joshua Kahan (2012), Brian Post (2012), Puneet Bajpai (2007), Sarah Schrass (2005)

Visiting Student Scholars *Visiting Student Scholars*

- Zheng Baofeng, Southest University, China (2013 – Present)
- Ying Qin, Tianjin, China (2012 – Present)
- Peng Liu, Northeastern University, China (2011 – 2012)
- Deniz Ayhan, Istanbul Technical Unversity, Turkey (2010 – 2011)
- Wanderson Maia, University of Sao Paulo – Sao Carlos (2010)
- Ornella Iuorio, University of Naples, Italy (2008)
- Luiz Viera, University of Sao Paulo – Sao Carlos (2006)
- Gustavo Chodraui, University of Sao Paulo – Sao Carlos (2005)

Undergrad *Undergraduate Researchers*

Class of 2016: Isaiah Sampson; **Class of 2014**: Molly Van Doren; **Class of 2012**: Mo Alkaysi, Matt Sisinni; **B.S. 2011**: Lauren Thompson, Hannah Blum, Andrew Faulkner, Nathaniel Dwyre; **B.S. 2010**: Rebecca Pierce, Leah Zambetti, Maggie Wildnauer; **B.S. 2009**: Linda Wan; B.S. 2008: Ying Guan (Provost's Award); Heejae Yang; **B.S. 2007**: Eric Deuser, Mario Fasano; **B.S. 2004**: Tim Ruth; Sam Phillips (Provost's Award); Brent Bass; Liakos Ariston; Andrew Myers; Tom Lydigsen; **B.S. 2003**: George Durham; **B.S. 2002**: Adrienne Via

High School | *High School RA's*
Frances Wells (Garrison Forest 2011-12), Ryan Carter (Bal. Poly. 2009-10), Kristine Carter (Bal. Poly. 2007-08), Dawneshia Sanders (Bal. Poly. 2006-07), Alexander Pei (Montgomery-Blair 2006), Michael Manness, Jr. (Bal. Poly. – 2003-04).

PUBLICATIONS:

JOURNAL ARTICLES

Submitted

Szyniszewski, S., Smith, B.H., Hajjar, J.F., Schafer, B.W., Arwade, S.R., (2012). "The mechanical properties of a sintered, hollow sphere, steel foam." Submitted to *Materials and Design* (Submitted 11 January 2013)

Louhghalam, A., Kim, D., Wirtz, D., Schafer, B.W. "Actin cap fibers protect the nucleus and regulate mechanotransduction in healthy cells" *to be* Submitted to PLOS One (January 2013).

Gong, J., Zhang, D., Tseng, Y., Li, B., Wirtz, D., Schafer, B.W. "Form-finding model shows how cytoskeleton network stiffness is realized." Submitted to PLOS One 3 January 2013.

Peterman, K.D., Schafer, B.W. "Sheathed Cold-Formed Steel Studs Under Axial and Lateral Load." Submitted to *Journal of Structural Engineering* (Submitted 2 January 2013).

Published/In Press

(--) Li, Z., Ádány, S., Schafer, B. W. "Modal identification for shell finite element models of thin-walled members in nonlinear collapse analysis" Submitted to *Thin-Walled Structures*, (Accepted 24 January 2012).

(--) Li, Z., Schafer, B. W. "The constrained finite strip method for thin-walled members with general end boundary conditions" ASCE, *Journal of Engineering Mechanics* (Accepted 4 January 2013).

(--) Zeinoddini, V.M., Graham-Brady, L.L., Schafer, B.W. (2013). "Imperfection sensitivity and reliability using simple bar-spring models for stability." World Scientific, *International Journal of Structural Stability and Dynamics*. *In Press* scheduled for 13 (3).

(--) Vieira Jr., L.C.M., Schafer, B.W. (2013). "Behavior and Design of Sheathed Cold-Formed Steel Stud Walls under Compression." ASCE, *Journal of Structural Engineering* (DOI: 10.1061/(ASCE)ST.1943-541X.0000731). *In Press*

(65) Moradi, M., Arwade, S.R., Schafer, B.W. (2013). "Computational evaluation of limit states of thin-walled channels made from steel foam." Elsevier, *Thin-walled Structures*. 62 206-214. (DOI:10.1016/j.tws.2012.07.007)

(64) Lee, T., Rammohan, A. V., Chan, A., Beng Chye Tan, V., Das De, S., Link, T. M., Eckstein. F., Schafer, B. W. (2012). "The susceptibility of the femoral neck to fracture: An assessment incorporating the effects of age-remodeling and stress reduction." Elsevier, *Journal of Biomechanics*, 45(6), 931-937. (DOI:10.1016/j.jbiomech.2012.01.021)

(63) Smith, B.H., Szyniszewski, S., Hajjar, J.F., Schafer, B.W., Arwade, S.R. (2012). "Characterization of Steel Foams for Structural Components." MDPI, *Metals*. 2 (4) 399-410. (DOI:10.3390/met2040399).

(62) Shifferaw, Y., Schafer, B.W. (2012). "Inelastic Bending Capacity of Cold-Formed Steel Members." ASCE, *Journal of Structural Engineering*. 138 (4) 468-480. (DOI:10.1061/(ASCE)ST.1943-541X.0000469)

(61) Szyniszewski, S., Smith, B.H., Hajjar, J.F., Arwade, S.R., Schafer, B.W. (2012). "Local buckling strength of steel foam sandwich panels." Elsevier, *Thin-walled Structures*. 59 11-19. (DOI:10.1016/j.tws.2012.04.014)

(60) Smith, B.H., Szyniszewski, S., Hajjar, J.F., Schafer, B.W., Arwade, S.R. (2012). "Steel foam for structures: A review of applications, manufacturing and material properties." Elsevier, *Journal of Constructional Steel Research*. 71 1-10. (DOI: 10.1016/j.jcsr.2011.10.028)

(59) Vieira Jr., L.C.M., Schafer, B.W. (2012). "On the design methods of cold-formed steel wall studs by the AISI specification." Revista da Estrutura de Aço. 1 (2) 79-94.

(58) Zeinoddini, V.M., Schafer, B.W. (2012). "Simulation of geometric imperfections in cold-formed steel members using a spectral representation approach." Elsevier, *Thin-walled structures*. 105-117 (DOI: 10.1016/j.tws.2012.07.001)

(57) Vieira Jr., L. C. M., Schafer, B.W. (2012). "Lateral Stiffness and Strength of Sheathing Braced Cold-Formed Steel Stud Walls." Elsevier, *Engineering Structures.* 37, 205–213 (DOI: 10.1016/j.engstruct.2011.12.029)

(56) Schafer, B.W. (2011). "Cold-formed steel structures around the world: A review of recent advances in applications, analysis and design." ECCS, *Steel Construction*. 4 (3) 141-149. (DOI: 10.1002/stco.201110019)

(55) Moen, C., Schafer, B.W. (2011). "Direct Strength Method for Design of Cold-Formed Steel Columns with Holes." ASCE, *Journal of Structural Engineering*. 137 (5) 559-570. (DOI: 10.1061/(ASCE)ST.1943-541X.0000310)

(54) Li, Z., Hanna, M.T., Ádány, S., Schafer, B.W. (2011). "Impact of Basis, Orthogonalization, and Normalization on the constrained Finite Strip Method for Stability Solutions of Open Thin-walled Members." Elsevier, *Thin-walled Structures.* 49 (9) 1108-1122. (DOI: 10.1016/j.tws.2011.04.003)

(53) Zeinoddini, V.M., Schafer, B.W. (2011). "Global Imperfections and Dimensional Variations in Cold-Formed Steel Members." World Scientific, *International Journal of Structural Stability and Dynamics*. 11 (5) 829-854. (DOI: 10.1142/S0219455411004361)

(52) Leng, J., Guest, J.K., Schafer, B.W. (2011). "Shape Optimization of Cold-Formed Steel Columns." Elsevier, *Thin-walled Structures*. 49 (12) 1492-1503. (DOI: 10.1016/j.tws.2011.07.009)

(51) Smith, B.H., Szyniszewski, S., Hajjar, J.F., Schafer, B.W., Arwade, S.R. (2011). "Steel foam for structures: a review of applications, manufacturing and material properties." Elsevier, *Journal of Constructional Steel Research*. (http://dx.doi.org/10.1016/j.jcsr.2011.10.028). (Online 9 December 2011)

(50) Vieira Jr., L. C. M., Shifferaw, Y., Schafer, B.W. (2011) "Experiments on Sheathed Cold-Formed Steel Studs in Compression." Elsevier, *Journal of Constructional Steel Research.* 67 (10) 1554-1566 (doi:10.1016/j.jcsr.2011.03.029).

(49) Misra, S., Reed, K.B., Schafer, B.W., Ramesh, K.T., Okamura, A. M. (2010). "Mechanics of Flexible Needles Robotically Steered through Soft Tissue." *The International Journal of Robotics Research*. 29 (13) 1640-1660.

(48) Li, Z., Schafer, B.W. (2010). "Application of the finite strip method in cold-formed steel member design." Elsevier, *Journal of Constructional Steel Research.* 66 (8-9) 971-980. (doi:10.1016/j.jcsr.2010.04.001)

(47) Seif, M., Schafer, B.W. (2010). "Local Buckling of Structural Steel Shapes." Elsevier, *Journal of Constructional Steel Research.* 66 (10) 1232-1247. (doi:10.1016/j.jcsr.2010.03.015)

(46) Ádány, S., Joó, A.L., Schafer, B.W. (2010). "Buckling Mode Identification of Thin-Walled Members by using cFSM Base Functions." Elsevier, *Thin-walled Structures*. 48 (10-11) 806-817. (doi:10.1016/j.tws.2010.04.014)

(45) Schafer, B.W., Li, Z., Moen, C.D. (2010). "Computational modeling of cold-formed steel." Elsevier, *Thin-walled Structures.* 48 (10-11) 752-762. (doi:10.1016/j.tws.2010.04.008)

(44) Vieira Jr., L. C. M., Malite, M., Schafer, B.W. (2010). "Simplified models for cross-section stress demands on C-section purlins in uplift." Elsevier, *Thin-walled Structures*. 48 (1) 33-41 (doi:10.1016/j.tws.2009.07.009)

(43) Schafer, B. W. Vieira Jr., L. C. M., Sangree, R. H., Guan, Y. (2010) "Rotational Restraint and Distortional Buckling in Cold-Formed Steel Framing Systems." Revista Sul-Americana de Engenharia Estrutural (South American Journal of Structural Engineering), Special issue on cold-formed steel structures, 7 (1) 71-90.

(42) Moen, C.D., Schafer, B.W. (2009). "Elastic buckling of cold-formed steel columns and beams with holes." Elsevier, *Engineering Structures*. 31 (12) 2812-2824 (doi:10.1016/j.engstruct.2009.07.007).

(41) Moen, C.D., Schafer, B.W. (2009). "Elastic buckling of thin plates with holes in compression or bending." Elsevier, *Thin-walled Structures*. 47 (12) 1597-1607. (doi:10.1016/j.tws.2009.05.001)

(40) Lee T., Choi J.B., Schafer B.W., Segars W.P., Eckstein F., Kuhn V., Beck T.J. (2009). "Assessing the Susceptibility to Local Buckling at the Femoral Neck Cortex to Age-Related Bone Loss." Kluwer, *Annals of Biomedical Engineering*. 37 (9) 1910-1920. (doi:10.1007/s10439-009-9751-9)

(39) Tootkaboni, M., Graham-Brady, L., Schafer, B.W. (2009). "Geometrically non-linear behavior of structural systems with random material property: an asymptotic spectral stochastic approach." Elsevier, *Computer Methods in Applied Mechanics & Engineering*. 198 (37-40) 3173-3185 (doi:10.1016/j.cma.2009.05.014)

(38) Ádány, S., Silvestre, N., Schafer, B.W., Camotim, D. (2009). "GBT and cFSM: Two modal approaches to the buckling analysis of unbranched thin-walled members." *Advanced Steel Construction.* 5 (2) 195-223.

(37) Sangree, R.H. and Schafer, B.W. (2009). "Experimental and Numerical Analysis of a Halved and Tabled Traditional Timber Scarf Joint." Elsevier, *Construction and Building Materials*. 23 (2) 615-524 (doi:10.1016/j.conbuildmat.2008.01.015)

(36) Sangree, R.H. and Schafer, B.W. (2009). "Experimental and Numerical Analysis of a Stop-Splayed Traditional Timber Scarf Joint with Key." Elsevier, *Construction and Building Materials.* 37 (1) 376-385 (doi:10.1016/j.conbuildmat.2007.11.004)

(35) Sangree, R.H. and Schafer, B.W. (2008). "Field Experiments and Numerical Models for the Global Condition Assessment of Historic Timber Bridges." ASCE, *Journal of Bridge Engineering*. 13 (6) 595-601. (doi:10.1061/(ASCE)1084-0702(2008)13:6(595))

(34) Moen, C.D., Igusa, T., Schafer, B.W. (2008). "Prediction of Residual Stresses and Strains in Cold-Formed Steel Members." Elsevier, *Thin-walled Structures.* 46 (11) 1274-1289. (doi:10.1016/j.tws.2008.02.002)

(33) Moen, C.D., Schafer, B.W. (2008). "Experiments on Cold-Formed Steel Columns with Holes." Elsevier, *Thin-walled Structures*. 46 (10) 1164-1182. (doi:10.1016/j.tws.2008.01.021)

(32) Caracoglia, L., Sangree, R.H., Jones, N.P., Schafer, B.W. (2008). "Interpretation of full-scale strain data from wind pressures on a low-rise structure." Elsevier, *Journal of Wind Engineering & Industrial Aerodynamics*. 96 (12) 2363-2382 (doi:10.1016/j.jweia.2008.04.001)

(31) Schafer, B.W. (2008). "Review: The Direct Strength Method of cold-formed steel member design." Elsevier, *Journal of Constructional Steel Research.* 64 (7/8) 766-778

(30) Ádány, S., Schafer, B.W. (2008). "A full modal decomposition of thin-walled, single-branched open cross-section members via the constrained finite strip method." Elsevier, *Journal of Constructional Steel Research* 64 (1) 12-29. (doi:10.1016/j.jcsr.2007.04.004)

(29) Chodraui, G.M.B., Shifferaw, Y., Malite, M., Schafer, B.W. (2007). "On the stability of cold-formed steel angles under compression." *Revista Escola de Minas* 60 (2) 355-363.

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(43)* Schafer†, B.W. (2006). "Development and Progress in the Direct Strength Method of Cold-Formed Steel Member Design." *Proceedings of the International Symposium on Innovative Design of Steel Structures*, Hong Kong, China, Ed. Ben Young, 43-62.

(42) Yu†, C., Schafer, B.W. (2006). "Finite element modeling of cold-formed steel beams: validation and application." *Proceedings of the Eighteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 89-104.

(41) Schafer†, B.W. (2006). "Designing cold-formed steel using the Direct Strength Method." *Proceedings of the Eighteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 475-490.

(40) Moen†, C., Schafer, B.W. (2006). "Impact of holes on the elastic buckling of cold-formed steel columns with application to the Direct Strength Method." *Proceedings of the Eighteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 269-284.

(39) Chodraui, G.M.B., Shifferaw†, Y., Malite, M., Schafer, B.W. (2006). "Cold-formed steel angles under axial compression." *Proceedings of the Eighteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. October 2006. 285-300.

(38) Schafer†, B.W., Ádány, S. (2006). "Buckling analysis of cold-formed steel members using CUFSM: conventional and constrained finite strip methods." *Proceedings of the Eighteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 39-54.

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(36) Chodraui, G.M.B., Neto, J.M., Malite, M., Schafer†, B.W. (2006). "On the stability of cold-formed steel members under axial compression." *Proceedings of International Colloquium on Stability and Ductility of Steel Structures*, Lisbon, Portugal, Ed. Camotim et al., Vol. 2, 623-630.

(35) Moen, C., Schafer†, B.W. (2006). "Stability of cold-formed steel columns with holes." *Proceedings of International Colloquium on Stability and Ductility of Steel Structures*, Lisbon, Portugal, Ed. Camotim et al., Vol. 2, 697-704.

(34) Ádány, S., Joó†, A., Schafer, B.W. (2006). "Approximate identification of the buckling modes of thin-walled columns by using the modal base functions of the constrained finite strip method." *Proceedings of International Colloquium on Stability and Ductility of Steel Structures*, Lisbon, Portugal, Ed. Camotim et al., Vol. 1, 197-204.

(33)* Ádány†, S., Silvestre, N., Schafer, B.W., Camotim, D. (2006). "Buckling Analysis of Unbranched Thin-Walled Columns using cFSM and GBT: A Comparative Study." *Proceedings of International Colloquium on Stability and Ductility of Steel Structures*, Lisbon, Portugal, Ed. Camotim et al., Vol. 1, 205-212.

(32) Schafer†, B.W., Ádány, S. (2006). "Modal decomposition for thin-walled member stability using the finite strip method." SMCD 2006, May 14-17, 2006, University of Waterloo, Waterloo, Ontario, Canada.

(31)* Ádány†, S., Silvestre, N., Schafer, B.W., Camotim, D. (2006). "Buckling Analysis of Unbranched Thin-Walled Columns: Generalised Beam Theory and Constrained Finite Strip Method." *Third European*

Conference on Computational Solid and Structural Mechanics: Solids, Structures and Coupled Problems in Engineering (ECCM-2006), Lisbon, Portugal, June 5-8, 2006.

(30) Yu†, C., Schafer, B.W. "Stability of thin plates under longitudinal stress gradients." (2006). *Proceedings of the Annual Technical Session and Meeting, Structural Stability Research Council*, February, 2006. San Antonio, Texas.

(29) Schafer†, B.W., Ádány, S. (2005). "Understanding and classifying local, distortional and global buckling in open thin-walled members." *Proceedings of the Structural Stability Research Council Annual Stability Conference*, May, 2005. Montreal, Quebec, Canada. 27-46.

(28) Ádány†, S., Schafer, B.W. (2004). "Buckling mode classification of members with open thin-walled cross-sections." *Proceedings of the Fourth International Conference on Coupled Instabilities in Metal Structures*, September 27-29, 2004. Rome, Italy. 467-476.

(27) Ye†, Z., Kettle, R., Li, L.Y., Schafer, B.W. (2004). "Stress and Buckling of Cold-Formed Zed-Purlins Partially Restrained by Steel Sheeting." *Proceedings of the 4th International Conference on Thin-Walled Structures*. Loughborough University, Leicestershire, UK. 259-264.

(26) Arwade, S.R., Schafer†, B.W. (2004). "Perspectives on the Evolution of Structures: Teaching Civil Engineering History at Johns Hopkins." Baltimore Civil Engineering History. Proceedings of the History and Heritage Track of the ASCE Civil Engineering Conference and Exposition. Baltimore, MD. 332-342.

(25) Yu†, C., Schafer, B.W. (2004). "Distortional Buckling Tests on Cold-Formed Steel Beams." *Proceedings of the Seventeenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 19-46.

(24) Yu†, C., Schafer, B.W. (2004). "Stress Gradient Effect on the Buckling of Thin Plates." *Proceedings of the Seventeenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 47-70.

(23) Schafer†, B.W., Bajpai, P. (2004). "Stability Degradation and Redundancy in Damaged Structures." *Proceedings of the Structural Stability Research Council Annual Stability Conference*, April, 2004. Long Beach, CA. 179-198.

(22) Schafer†, B.W. (2003). "Cold-Formed Steel Design by the Direct Strength Method: Bye-Bye Effective Width." *Proceedings of the Structural Stability Research Council Annual Technical Session and Meeting*, April, 2003. Baltimore, MD. 357-378.

(21) Buonopane†, S.G., Schafer, B.W., Igusa, T. (2003). "Reliability Implications of Advanced Analysis in Design of Steel Frames." *Proceedings of the Structural Stability Research Council Annual Technical Session and Meeting*, April, 2003. Baltimore, MD. 299-318.

(20) Schafer†, B.W., M^{c}Grath, T.J. (2003). "Buried Corrugated Thermoplastic Pipe: Simulation and Design." Annual Meeting of the Transportation Research Board, Washington, D.C. (CD Proceedings)

(19) M^{c}Grath†, T.J., Schafer, B.W. (2003). "Parallel Plate Testing and Simulation of Corrugated Thermoplastic Pipe." Annual Meeting of the Transportation Research Board, Washington, D.C. (CD Proceedings)

(18)* Schafer†, B.W. (2003). "Advances in Direct Strength Design of Thin-Walled Members." *Proceedings of the International Conference on Advances in Structures: Steel, Concrete, Composite and Aluminum* - ASSCCA'03, June 23 - 25, 2003, Sydney, Australia. 333-340.

(17)* Buonopane, S.G., Schafer†, B.W., Igusa, T. (2003). "Reliability Implications of Advanced Analysis in Design of Steel Frames." *Proceedings of the International Conference on Advances in Structures: Steel, Concrete, Composite and Aluminum* - ASSCCA'03, June 23 - 25, 2003, Sydney, Australia. 547-554.

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(15) Schafer†, B.W. (2002). "Progress on the Direct Strength Method." *Proceedings of the Sixteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 647-662.

(14) Schafer†, B.W., Trestain, T. (2002). "Interim Design Rules for Flexure in Cold-Formed Steel Webs." *Proceedings of the Sixteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 145-160.

(13) Yu†, C., Schafer, B.W.. (2002). "Local Buckling Tests on Cold-Formed Steel Beams." *Proceedings of the Sixteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 127-144.

(12) Schafer†, B.W. (2002). "Stiffened Elements with Multiple Intermediate Stiffeners and Edge Stiffened Elements with Intermediate Stiffeners: An All New B5." *Proceedings of the Sixteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 41-52.

(11) Schafer†, B.W., Hiriyur, B. (2002). "Analysis of Sheathed Cold-Formed Steel Wall Studs." *Proceedings of the Sixteenth International Specialty Conference on Cold-Formed Steel Structures*, Orlando, FL. 501-513.

(10) Schafer†, B.W. (2001). "Thin-Walled Column Design Considering Local, Distortional and Euler Buckling." *Proceedings of the Structural Stability Research Council Annual Stability Conference*, May 8–12, 2001. Ft. Lauderdale, FL. 419-438.

(9)* Schafer, B.W., Peköz†, T. (1999). "Local and Distortional Buckling of Cold-Formed Steel Members with Edge Stiffened Flanges." *Proceedings of the Fourth International Conference on Steel and Aluminum Structures*. Finland.

(8) Schafer†, B.W., Peköz, T. (1998). "Direct Strength Prediction of Cold-Formed Steel Members using Numerical Elastic Buckling Solutions." *Proceedings of the Fourteenth International Specialty Conference on Cold-Formed Steel Structures*. St. Louis, Missouri. 69-76.

(7) Schafer†, B.W., Peköz, T. (1998). "Laterally Braced Cold-Formed Steel Flexural Members with Edge Stiffened Flanges." *Proceedings of the Fourteenth International Specialty Conference on Cold-Formed Steel Structures*. St. Louis, Missouri. 1-20.

(6) Schafer, B.W., Peköz†, T. (1998). "Direct Strength Prediction of Cold-Formed Steel Members using Numerical Elastic Buckling Solutions." *Proceedings of the Second International Conference on Thin-Walled Structures*. Singapore.

(5) Schafer, B.W., Peköz†, T. (1997). "Geometric Imperfections and Residual Stresses for Use in the Analytical Modeling of Cold-Formed Steel Members." *Proceedings of the International Conference on Experimental Model Research and Testing of Thin-Walled Structures*. Prague, Czech Republic. 287-302.

(4) Schafer†, B.W., Peköz, T. (1996). "Design of Cold-Formed Steel Elements with Multiple Longitudinal Intermediate Stiffeners." *Proceedings of the Thirteenth International Specialty Conference on Cold-Formed Steel Structures*. St. Louis, Missouri. 47-64.

(3) Schafer†, B.W., Grigoriu, M., Peköz, T. (1996). "A Probabilistic Examination of the Ultimate Strength of Cold-Formed Steel Elements." *Proceedings of the Thirteenth International Specialty Conference on Cold-Formed Steel Structures*. St. Louis, Missouri. 65-80.

(2) Schafer†, B.W., Peköz, T. (1996). "Geometric Imperfections and Residual Stresses for Use in the Analytical Modeling of Cold-Formed Steel Members." *Proceedings of the Thirteenth International Specialty Conference on Cold-Formed Steel Structures*. St. Louis, Missouri. 649-664.

(1) Schafer†, B.W., Peköz, T. (1995). "The Behavior and Design of Longitudinally Stiffened Thin-Walled Compression Elements." *Proceedings of the Third International Conference on Steel and Aluminum Structures*. Bogaziçi University, Istanbul, Turkey. 57-64.

CONFERENCE PRESENTATIONS / EXTENDED ABSTRACTS

† - denotes author which presented at conference
* - denotes invited conference paper and presentation
** - denotes invited keynote paper and presentation

(56) Arwade, S.R., May, V.V., Schafer, B.W., Buonopane, S.G., Deodatis, G. (2012). "Teaching structural art: a multi-institution collaboration." 2012 ASEE Northeast Section Conference, 27-28 April 2012, University of Massachusetts Lowell.

(55)**Schafer†, B.W. (2012). "CFS R&D for CFSEI: A World-Wide Review of Recent Advances in Applications, Analysis, and Design of CFS." CFSEI Expo, 21-22 May 2013, Orlando, FL.

(54)*Schafer†, B.W. (2012). "Sheathing Braced Design of Wall Studs." CFSEI Expo, 21-22 May 2013, Orlando, FL.

(53) Peterman†, K.D. and Schafer, B.W. (2012) "Experimental analysis of sheathed cold-formed steel columns under axial load and bending." 2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012) 17-20 June, 2012.

(52) Leng†, J., Li Z., Schafer, B.W. and Guest J.K. (2012) "Shape Optimization of Cold-formed Steel Columns with Manufacturing Constraints." 2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012) 17-20 June, 2012.

(51) Shifferaw†, Y., Li Z., Leng, J. Schafer, B.W. (2012)."Optimization of cold-formed steel beam-column industry sections." 2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012) 17-20 June, 2012.

(50) Szyniszewski†, S., Smith, B., Schafer, B.W., Hajjar, J.F., Arwade, S.R. (2012) "Reliability of Steel Foam Sandwich Panels." 2012 Joint Conference of the Engineering Mechanics Institute and 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI/PMC 2012) 17-20 June, 2012.

(49) Zeinoddini†, V.M., Schafer, B.W. (2011). "Simulation of Geometric Imperfections in Thin-walled Members." ASCE, Engineering Mechanics Institute Conference: EMI 2011, Northeastern University, Boston, MA. June 2011.

(48) Leng†, J., Schafer, B.W., Guest, J.K. (2011). "On the Application of Optimization Methods to Cold-formed Steel Cross-section Strength of Column." ASCE, Engineering Mechanics Institute Conference: EMI 2011, Northeastern University, Boston, MA. June 2011.

(47) Li†, Z., Schafer, B.W. (2011). "Applications of Modal Identification in Finite Element Models of Thin-Walled Members." ASCE, Engineering Mechanics Institute Conference: EMI 2011, Northeastern University, Boston, MA. June 2011.

(46) Szyniszewski†, S., Schafer, B.W., Hajjar, J.F., Arwade, S.R., Smith, B.H. (2011). "Metal Foam Computational Models for New Class of Structural Applications." ASCE, Engineering Mechanics Institute Conference: EMI 2011, Northeastern University, Boston, MA. June 2011.

(45) Smith†, B.H., Arwade, S.R., Szynizewski. S., Schafer, B.W., Hajjar, J.F. (2011). "Review of Steel Foams: Processing, Properties and Applications." ASCE, Engineering Mechanics Institute Conference: EMI 2011, Northeastern University, Boston, MA. June 2011.

(44) Smith†, B.H., Arwade, S.R., Szyniszewski, S., Schafer, B.W., Hajjar, J.F., (2011). "Modeling hollow sphere cellular metals as a random microstructure." ASCE, Engineering Mechanics Institute Conference: EMI 2011, Northeastern University, Boston, MA. June 2011.

(43) Arwade†, S.R., Hajjar, J.F., Schafer, B.W., Moradi, M., Smith, B.H., Szyniszewski, S. (2011). "Steel foam material processing, properties, and potential structural applications." Proceedings of 2011 NSF Engineering Research and Innovation Conference, Atlanta, Georgia. January 2011.

(42) Schafer†, B.W., Nakata, N., Buonopane, S.G., Madsen, R.L. (2011). "CFS-NEES: Advancing Cold-Formed Steel Earthquake Engineering." Proceedings of 2011 NSF Engineering Research and Innovation Conference, Atlanta, Georgia. January 2011.

(41) Seif†, M., Schafer, B.W. (2010). "Strain Distribution in Locally Slender Structural Steel Cross-Sections." Annual Meeting of the ASCE Engineering Mechanics Institute, Los Angeles, CA. August 2010.

(40)* Zeinoddini, V.M., Schafer†, B.W. (2009). " Imperfection models for cold-formed steel from rules of thumb to random fields." ESMC2009 - Mini-Symposium on 'Stability and Non-Linear Behavior of Steel Structures', Lisbon, Portugal – September 7-11, 2009.

(39) Silvestre†, N., Ádány, S., Camotim, D., Schafer, B.W. (2009). "Comparing the matrix procedures between GBT and cFSM: from different roots to similar solution." ESMC2009 - Mini-Symposium on 'Stability and Non-Linear Behavior of Steel Structures', Lisbon, Portugal – September 7-11, 2009.

(38) Schafer†, B.W. "Civil Engineering Education Reform Efforts at Select University Programs: Johns Hopkins." Special Session: Civil Eng. Education Reform, ASCE Structures Congress, Austin, April 30, 2009.

(37) Seif†, M. Schafer, B.W. "Elastic buckling finite strip analysis of the AISC sections database and proposed local plate buckling coefficients." ASCE Structures Congress, Austin, TX, April 30 – May 2.

(36)* Schafer†, B.W. (2008). "Distortional buckling: what is it and how to design against it." Metalcon International, Baltimore, MD, October 1 - 3 2008.

(35) Khaled†, A., Schafer, B.W., Brown, J.K., Eckstein, F., Kuhn, V., Bauer, J., Link, T.M., Beck, T.J. (2008). "Contribution of Local Buckling to Femoral Neck Failure in Stance and Fall Mode Simulations: An Advanced FEA Analysis of Elderly Cadaver Femur Data." Annual Meeting of the American Society for Bone and Mineral Research in Montréal, Quebéc, Canada, September 12 - 16, 2008,

(34)* Schafer, B.W. , Sangree, R.H., Moen†, C. , Seif, M., Shifferaw, Y., Zeinoddini, V., Li, Z., Vieira, L., Iuorio, O., Guan, Y. "Modeling thin-walled cold-formed steel members and systems" *Proceedings of the 6th International Conference on Computation of Shell and Spatial Structures IASS-IACM 2008: "Spanning Nano to Mega"*, 28-31 May 2008, Cornell University, Ithaca, NY, USA, Abel, J.F, Cooke, R. (eds.)

(33)* Schafer†, B.W. (2008). "Cold-formed steel design by the Direct Strength Method." Metalcon International, Tampa, FL, October 4-6 2006.

(32) Adany†, S., Schafer, B.W. (2006). "Uncertainties in the definition of buckling of thin-walled members" IABSE Symposium, Budapest, Hungary.

(31) Sangree†, R.H., Schafer, B.W. (2006). "Covered Wooden Bridges: A Modern Analysis at the System and Component Levels." ASCE Structures Congress, St. Louis, Missouri.

(30)* Ádány, S., Schafer†, B.W. (2005). "Mechanics-based modal identification of thin-walled members with multi-branched cross-sections." McMat 2005, 2005 Joint ASME/ASCE/SES Conference on Mechanics and Materials, Baton Rouge, Louisiana.

(29)* Schafer†, B.W. (2005). "Cold-Formed Steel Design by the Direct Strength Method." Mid-Atlantic Steel Framing Alliance Conference, May 2005, Annapolis, MD. (Abstract only)

(28) Schafer†, B.W., Bajpai, P. (2005). "Building Structural Safety Decision-Making for Severe Unforeseen Hazards." Proceedings of 2005 NSF DMII Grantees Conference, Scottsdale, Arizona.

(27) Lee†, T., Schafer, B.W., Loveridge, N., Reeve, J., Beck, T.J. (2005). "Finite strip analysis in the assessment of local buckling capacity of the femoral neck." Meeting of the Orthopedic Research Society. Washington, D.C., Feb. 20-23.

(26) Ádány†, S., Yu, C., Schafer, B.W. (2005). "Local and Distortional Buckling Resistance of Cold-Formed Steel Beams: Eurocode 3 in the light of (i) Experimental Results and (ii) Other Design Codes." Eurosteel Conference on Steel and Composite Structures, 8 to 10 June 2005 in Maastricht, The Netherlands

(25) Schafer, B. W. and Arwade, S. R. (2004). "Mechanical properties of random networks." 17th ASCE Conference on Engineering Mechanics. Newark, DE, June 13-16, 2004.

(24) Lee†, T., Schafer, B.W., Daphtary, M.M., Beck, T.J. (2004). "Geometric Effects That Occur With Ageing And Osteoporosis Have An Impact On The Local Buckling Capacity Of Bone At The Femoral Neck." American Society for Bone and Mineral Research, Seattle Washington.

(23) Schafer, B.W., Arwade†, S.R. (2004). "Mechanical Properties of Random Networks." Annual ASCE-Engineering Mechanics Division meeting, Newark, DE.

(22) Schafer†, B.W. (2004). "Integrating Numerical Methods into the Design of Thin-walled Members." American Society of Civil Engineering, Structures Congress, Committee on Compression and Flexural Members, Nashville, TN.

(21) Liu, H., Schafer†, B.W., Igusa, T. (2004). "Cold-formed Steel Member Cross-section Shape Optimization by Knowledge-Based Global Optimization Method." American Society of Civil Engineering, Structures Congress, Nashville, TN.

(20)* Schafer†, B.W. (2004). "Local buckling design without effective width: new developments in the building industry." Committee A2C06 Culverts and Hydraulic Structures, Annual Meeting of the Transportation Research Board, Washington, D.C.

(19)* Schafer†, B.W. (2003). "Coming Soon: A Simpler, Faster, Cold-Formed Steel Design." American Society of Civil Engineers, National Conference, Nashville, TN.

(18) Bajpai†, P., Schafer, B.W. (2003). "Progress Towards Structural Design for Unforeseen Catastrophic Events." ASME National Congress. Washington, D.C.

(17) Graham-Brady†, L., Schafer, B.W., Li, J. (2003). "Analysis of Post-Buckling Behavior of Beam-Column Structures via Stochastic Finite Elements." Annual ASCE-Engineering Mechanics Division meeting, Seattle, WA.

(16) Arwade†, S.R., Schafer, B.W. (2003). "Network Models." U.S. National Congress on Computational Mechanics. Albuquerque, NM.

(15) Liu†, H., Igusa T. and Schafer, B. W. (2003). "A Comparison Between Classifier Model and Genetic Algorithm on Cold-formed Steel Column Global Optimization." Genetic and Evolutionary Computation Conference 2003, Graduate Student Workshop, July, Chicago, IL.

(14) Igusa†, T., Liu, H., Schafer, B.W., Naiman, D.Q. (2003). "Bayesian classification trees and clustering for rapid generation and selection of design alternatives." NSF, Design, Manufacturing, and Industrial Innovation Research Conference.

(13)* Tseng, Y., Schafer, B.W., Federov, E., Almo, S.C., Wirtz†, D. (2003). "Functional synergy of actin cross-linking proteins." Annual Meeting of the BioPhysical Society, San Antonio, TX.

(12) Lamar, D. Schafer†, B.W. (2003). "Engineering Analysis of Covered Wooden Bridges from the HAER Summer 2002 Project." The Preservation Education Institute, National Conference: Best Practices, Care and Repair of Covered Bridges, Windsor VT.

(11) Schafer†, B.W. (2003). "Coming Soon: A Simpler, Faster, Cold-Formed Steel Design." American Society of Civil Engineers, Structures Congress, Seattle, WA.

(10) Wirtz†, D., Tseng, Y., Schafer, B.W., Almo, S.C. (2002). "Synergy of actin crosslinking proteins." American Society for Cell Biology, San Francisco, CA.

(9) Shama†, A., Ojdrovic, R., Schafer, B., Zarghamee, M. (2002). "Role of Stress Triaxiality on the Seismic Damage of Steel Moment Frames." Seventh U.S. National Conference on Earthquake Engineering, Boston, MA.

(8) Schafer†, B.W., Graham, L. (2002). "FEM Implementation of Koiter's Asymptotic Post-Buckling Prediction with Application to Stochastic Post-Buckling Analysis." Annual ASCE-EMD meeting, New York, New York.

(7) Schafer, B. W., Igusa†, T., Buonopane, S. G., Ellingwood, B. R. (2002). "Decision-Theoretic View of Building Codes." NSF Conference on Manufacturing, San Juan, Puerto Rico.

(6) Schafer†, B.W., Ojdrovic, R.P, Shama, A.A., Zarghamee, M.S. (2001). "Stress Triaxiality and Fracture in Welded Steel Moment Frames." Computational Fracture & Damage Mechanics Symposium of the *6th US National Congress on Computational Mechanics*, Dearborn, MI, USA, August 1-4, 2001

(5) Schafer†, B.W. (2001). "Experiments on Braced Thin-Walled Cold-Formed Steel C and Z Beams in Flexure." *Recent Advances in Stability of Structural Components and Systems* combined ASCE-EMD and ASME Summer Conference. San Diego, California.

(4) Schafer†, B.W. (2001). "Direct Strength Prediction of Thin-Walled Beams and Columns." *Recent Advances in Stability of Structural Components and Systems* combined ASCE-EMD and ASME Summer Conference. San Diego, California.

(3) Ojdrovic†, R.P., Schafer, B.W., Zarghamee, M.S. (2000). "Fracture and the Role of Triaxiality for Steel Structures." *ASCE-SEI 2000 Structures Congress*. Philadelphia, Pennsylvania..

(2) Peköz, T.P., Schafer, B.W., Kim†, Y. (1999). "CUFSM and a Fresh Look at the AA (Aluminum Association) Specification." *Workshop on Research and Design for Aluminum Structures,* Ithaca, New York.

(1) Schafer†, B.W., Peköz, T. (1997). "Characterizing Imperfections for Computational Models." *Aluminum Association Workshop on Research and Design for Aluminum Structures,* Ithaca, New York.

INVITED SEMINARS

* Note, invited conference papers/presentations, and seminars for research sponsors, are denoted with an asterisk (*) and listed elsewhere – traditional academic seminars listed here:

(21) NIST, Engineering Laboratory, Materials and Structural Systems Division, Structures Group. March 1, 2012. (2012). "Cold-formed Steel Structures and a Preliminary Vision for Fire Engineering Needs."

(20) George Washington University, Department of Civil and Environmental Engineering. December 3, 2010. (2010). "Thin-walled Structures: Buckling mode decomposition and identification."

(19) University of Massachusetts – Amherst, Department of Civil and Environmental Engineering. October 26, 2007. (2007). "The constrained Finite Strip Method for decomposition and identification of buckling modes in thin-walled members."

(18) Maryland Institute College of Art, Department of Environmental Design. October 18, 2007. (2007). "Perspectives on the Evolution of Structures – A JHU Course." (Given again Fall 2008, 2009, 2010)

(17) University of São Paulo, School of Engineering of São Carlos, Department of Structural Engineering. August 8, 2006. (2006). "The Thin-walled Structures Research Group at Johns Hopkins University."

(16) Simpson, Gumpertz & Heger, Inc, Boston, MA. January 6, 2006. (2006). "Research in the Thin-walled Structures Group at Hopkins."

(15) University of North Texas, School of Engineering. December 2, 2005. (2005). "Research at Johns Hopkins in the Thin-walled Structures Research Group."

(14) University of Minnesota, Dept. of Civil Engineering. November 18, 2005. (2005). "Buckling mode decomposition and identification of open thin-walled members."

(13) Virginia Tech. University, Dept. of Civil and Environmental Engineering. April 29, 2005. (2005). "Stability Degradation and Redundancy in Damaged Structures."

(12) University of Iowa, Dept. of Civil and Environmental Engineering. March 11, 2005. (2005). "Stability Degradation and Redundancy in Damaged Structures."

(11) Budapest University of Technology and Economics, Dept. of Structural Engineering. January 10, 2005. (2005). "Distortional Buckling of Cold-Formed Steel Members in Bending."

(10) Canadian Standards Association, Canadian Standard S136: Technical Committee on Cold-Formed Steel Structural Members. May 2003. (2003). "The Direct Strength Method for the Design of Cold-Formed Steel Members."

(9) Johns Hopkins University, Dept. of Civil Engineering. March 2000. (2000). "Fracture of Steel Moment Connections and the Role of Stress Triaxiality."

(8) George Washington University, Dept. of Civil and Environmental Engineering. December 1999. (1999). "Cold-Formed Steel Behavior and Design: The Role of Longitudinal Stiffeners."

(7) Cornell University, School of Civil and Environmental Engineering. (1998). "Cold-Formed Steel Behavior and Design: The Role of Longitudinal Stiffeners."

(6) University of Illinois Urbana-Champaign, Dept. of Civil and Environmental Engineering. March 1998. (1998). "Cold-Formed Steel Behavior and Design: The Role of Longitudinal Stiffeners."

(5) Colorado State University, Dept. of Civil Engineering. April 1998.(1998). "Cold-Formed Steel Behavior and Design: The Role of Longitudinal Stiffeners."

(4) Clarkson University, Dept. of Civil and Environmental Engineering. April 1998. (1998). "Cold-Formed Steel Behavior and Design: The Role of Longitudinal Stiffeners."

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