

**Curriculum Vitae**  
**Steven M. Wilkerson, Ph.D., P.E.**  
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Address: PO Box 41566  
Houston, Texas 77241  
Phone: 832-969-8641 (cell)  
Email: smwilkerson@pvamu.edu

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## Education

**Rice University, Houston, Texas.** Dept. of Civil & Environmental Engineering. Ph.D., May 2005.

Thesis: An Optimization Algorithm for Minimum Weight Design of Steel Frames with Nonsmooth Stress Constraints.

Advisors: Prof. Satish Nagarajaiah (Dept. of Civil & Environmental Engineering) and Prof. Matthias Heinkenschloss (Dept. of Computational & Applied Mathematics).

**Rice University, Houston, Texas.** Master of Civil Engineering, December 1986.

**Rice University, Houston, Texas.** Bachelor of Science, May 1984.

Major: Structural Engineering.

Advisor: Prof. Walter J. Austin, Dept. of Civil Engineering.

## Academic Experience

**Prairie View A&M University, Prairie View, Texas.** Associate Professor of the Practice. September 2018 to present. Full-time instructor in School of Architecture.

**Rice University, Houston, Texas.** Lecturer. January 2009 to May 2020. Part-time lecturer in Dept. of Civil and Environmental Engineering.

**University of Houston, Houston, Texas.** Lecturer. August 2012 to May 2021. Part-time lecturer in Gerald D. Hines College of Architecture and Dept. of Civil and Environmental Engineering.

## Professional Experience

**Zia Engineering, Houston, Texas.** President. May 2014 to present. Marketing and business development. Structural engineering design and consulting.

**Haynes Whaley Associates, Houston, Texas.** Associate Vice President. February 2008 to May 2014. Responsibilities in development and management of technology, with emphasis on integrating technology into production.

**Technip USA, Houston, Texas.** Principal Research Associate. July 2006 to February 2008. Conceptual design and preliminary study of offshore transport, drilling and production units.

**Zentech, Houston, Texas.** Senior Design Engineer and Software Engineer, August 1994 to September 1999. Analysis and design of offshore structures. Software design for the analysis of fixed and floating offshore structures.

**CBM Engineers, Houston, Texas.** Design Engineer, March 1987 to February 1994. Analysis and design of building structures.

**Brown & Root International, Houston, Texas.** Design Engineer, May 1984 to July 1985.

## Publications

1. Slocum, S. and Wilkerson, S. M. (2014), "SEI Survey: Current Business Practices and Future Expectations," *STRUCTURE*, vol. 21, no. 6, pp. 52-55.
2. Wilkerson, S. M. (2013), "Mixed Variable Plate Girder Cost Optimization Using Mesh Adaptive Direct Search," in *Proceedings of the 2013 Structures Congress*, pp. 2520-2533, Structural Engineering Institute of the American Society of Civil Engineers, May 2013, Pittsburgh, PA.
3. McCormick, P. R. et al (2012), "Adopting New Technologies Into Your Business," *STRUCTURE*, vol. 19, no. 5, pp. 38-40.
4. Wilkerson, S. M. (2010), "Discussion on Critical Evaluation of Equivalent Moment Factor Procedures for Laterally Unsupported Beams," *Engineering Journal*, AISC, vol. 47, no. 4, pp. 279-280.
5. Wilkerson, S. M. and Nagarajaih, S. N., (2009), "Optimal Offloading Configuration of Spread-Moored FPSOs," *Journal of Offshore Mechanics and Arctic Engineering*, vol. 131, no. 2, pp. 021603-1:9.
6. Wilkerson, S. M., (2005) "Improved Coefficients for Elastic Lateral-Torsional Buckling," *Proceedings 46th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, April 2005.
7. Wilkerson, S. M., (2005) "A Smooth Shear Strength Function for Steel Flexural Members," *Engineering Structures*, vol. 27, no. 8, pp. 1268-1277.
8. Wilkerson, S. M., (2003) "A Robust Algorithm for the Design of Steel Structures," *Proceedings 44th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics, and Materials Conference*, April 2003. Awarded best in session.
9. Walden, N. L. and Wilkerson, S. M., (1996) "Automation of Concrete Design," *Concrete International*, vol. 18, no. 12, pp. 30-34.
10. Banavalkar, P. V. and Wilkerson, S. M., (1993) "Creep and Shrinkage of Composite Columns in Tall Buildings," *ASCE Structures Congress*, April 1993.

## Presentations

1. "SWN Corporate Headquarters," with Chris Hill, **Texas A&M University SEAoT Chapter Meeting**, October 2013, College Station, TX.
2. "BIM Quantity Estimation for Budget Reconciliation during Pre-Construction: A Case Study of the NBAF," with Perkins+Will **Houston BIM Peer Group monthly meeting**, May, 2013, Houston, TX.

3. "Mixed Variable Plate Girder Cost Optimization Using Mesh Adaptive Direct Search," at ASCE/SEI Optimal Structural Design Committee Session: Structural Optimization in Framed Buildings- Spanning from Theory to Practice, **ASCE Structures Congress**, May 2013, Pittsburgh, PA.
4. "Clash of the ReviTitans," with BDMI, **HARUG monthly meeting**, April 2013, Houston, TX.
5. "BIM: Reality Check and Future Agenda," panelist, **BIM Texas Conference**, November 2012, San Antonio, TX.
6. "Lessons Learned From the Recession / Where Do We Go From Here?" with SEI/ASCE Business Practices Committee, **ASCE Structures Congress**, March 2012, Chicago, IL.
7. "BIM Benefits (and Challenges): A Panel Discussion with Architect, Engineer & Contractor," with WHR and Satterfield & Pontikes, **SMPS Houston Chapter monthly meeting**, March 2012, Houston, TX.
8. "Many Offices and One Project in Autodesk® Revit®: BIM Collaboration Lessons Learned," with Perkins+Will, **Autodesk University 2011**, December 2011, Las Vegas, NV.
9. "Design Options in Production Modeling," with WHR, **HRUG monthly meeting**, August 2011, Houston, TX.
10. "Adopting New Technologies Into Your Business," with SEI/ASCE Business Practices Committee, **ASCE Structures Congress**, April 2011, Las Vegas, NV.
11. "Project Phase Overview," **Texas A&M University ASCE Chapter Meeting**, November 2010, College Station, TX.
12. "The Houston Pavilions: Design and Construction Challenges," with Harvey, Myrex, and Lucky's Steel, **AISC Steel Camp**, June 2010, Houston, TX.
13. "Driving data in your Revit Model via an Excel Spreadsheet through Revit DB Link and a Live Access Link," **HRUG monthly meeting**, May 2010, Houston, TX.
14. "BIM - Project Delivery in the 21<sup>st</sup> Century," with Kirksey, **CEFPI**, February 2010, Houston, TX.
15. Panelist, **BIM Forum Houston**, Sponsored by AGC/TAMU, September 2009, Houston, TX.
16. "Improving the Construction Process through Technology - the Benefits of Virtual Design and Construction," with Satterfield & Pontikes, **BIM Fundamentals: Taking it to the Next Level**, at ZweigWhite 2008 SE Conference & Expo, October 2008, Atlanta, GA.

## Teaching Interests

- Engineering Mechanics/Strength of Materials
- Steel/Concrete Building Design
- Multidisciplinary Building Design

## Research Interests

- Interdisciplinary collaboration using digital communication methods
- Integration of FEM and CAD models for use in large scale production processes
- Nonlinear analysis of concrete structures
- Optimization of nonlinear objective functions with nonsmooth constraints
- Optimization formulations using rule based design methodology

## **Registrations**

- Licensed Professional Engineer (PE) in the States of Texas and Louisiana.
- Licensed Structural Engineer (SE) in the State of Arizona.

## **Professional Memberships**

- American Concrete Institute (ACI). Member.
- American Institute of Steel Construction (AISC). Educator Member.
- American Society of Civil Engineers (ASCE). Member.
- Building Technology Educators' Society (BTES). Member.
- Structural Engineers Association of Texas (SEAoT). Past President, Houston Chapter.

## **Committees**

- Prairie View A&M, School of Architecture Assessment & Accreditation Committee.
- ASCE Business Practices Committee, 2011-2015.
- ASCE Optimal Structural Design Committee, 2013-2015.
- SEAoT Government Affairs Committee. 2018-2019.

## **Service**

- Rice University Parking Committee. Past Member.
- Engineers Without Borders (EWB). Past Rice University Chapter Advisor.
- Prairie View A&M/University of Houston, Architectural Studio Review. Juror.
- Prairie View A&M, School of Architecture Tectonics Committee. Past Chair.