

# DAVID B. ROUECHE

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## **EDUCATION**

University of Florida	Structural Engineering	Ph.D.	2016
Dissertation Title: <i>Fragility Functions and Uncertainty Models for Tornado-Induced Wind Loads and Structural Response of Low-Rise Buildings</i>			
University of Florida	Structural Engineering	M.E.	2014
University of Florida	Civil Engineering	B.S.	2011
Jacksonville University	Engineering Physics	B.S.	2011

## **PROFESSIONAL EXPERIENCE**

*Assistant Professor* (2017-current), Department of Civil Engineering, Auburn University

*Post-Doctoral Scholar* (2017), Department of Civil and Coastal Engineering, University of Florida, Gainesville, FL

*Graduate Research Assistant* (2011-2016), Department of Civil and Coastal Engineering, University of Florida, Gainesville, FL

*Senior Research Assistant* (2006-2009), Millar Wilson Laboratory of Environmental Science, Jacksonville University, Jacksonville, FL

*Engineering Intern* (Aug. 2008 – Aug. 2009), Reynolds, Smith & Hills, Inc., Jacksonville, FL  
*Engineering Intern* (May 2007 – Dec. 2007), Ellis & Associates, Inc., Jacksonville, FL

## **GRANTS AND FUNDING**

NOAA VORTEX-SE. “Tornadoes and Mobile Homes: An Inter-science Approach to Reducing Vulnerabilities and Improving Capacities for the Southeast’s Most Susceptible Population.” \$21,000

Florida Department of Business and Professional Regulation. “Survey and Investigation of Buildings Damaged by Category II, IV, and V Hurricanes in FY17-18.” \$11,834

US National Science Foundation. 2017-2018. PI for “RAPID: Collection of Perishable Data on Wind- and Surge-Induced Residential Building Damage in Texas during 2017 Hurricane Harvey.” \$39,854.

## **PROFESSIONAL SERVICE**

### **Professional Committees**

ASCE/SEI Standards Committee for Estimating Wind Speeds of Tornadoes and Other Windstorms, Associate Member.

## **Editorial**

- ▶ Review Editor in Wind Engineering and Science, Frontiers in Built Environment
- ▶ Peer-Review of Journal Articles
  - Journal of Wind Engineering and Industrial Aerodynamics (3 articles)
  - Engineering Structures (4 articles)
  - Canadian Journal of Civil Engineering (1 article)
  - ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering (2 article)
  - Natural Hazards Review (2 article)
  - Wind and Structures (1 article)
  - International Journal of Disaster Risk Reduction (1 article)

## **AWARDS**

- ▶ Richard Marshall Award for *Best Doctoral Thesis Related to Experimental Methods or Field Investigations*, American Association for Wind Engineering (2017).
- ▶ NSF Graduate Research Fellowship (2013-2016). *Empirical Analysis of Tornado-Induced Loads on Residential Structures*.

## **MEMBERSHIPS**

- ▶ Forest Products Society, 2015-current
- ▶ Structural Engineering Institute of ASCE, 2015-current
- ▶ American Association for Wind Engineering, 2013-current
- ▶ American Society of Civil Engineers, 2011-current
- ▶ American Concrete Institute, 2012-current

## **TEACHING**

- ▶ CIVL 5790/6790 Wind Engineering (Spring 2018)
- ▶ CIVL 5690/6690 Timber Design (Fall 2017).

## **INVITED PRESENTATIONS**

- ▶ Roueche, D.B. (2018). "Performance Under Pressure: How Buildings Performed During Recent Hurricanes and What it Means for Tornado-Resistant Design Strategies". National Tornado Summit, February 28, 2018, Norman, OK.
- ▶ Roueche, D.B. (2017). "2017 Hurricane Field Reconnaissance and DesignSafe GIS Capabilities." NSF NHERI DesignSafe Tutorial, 13 December 2017.
- ▶ Roueche, D.B. (2017). "Observations and Future Trends in Tornado-Resilient Design." 2017 Simpson Strong-Tie Training Summit, McKinney, TX, 14 November 2017.
- ▶ Roueche, D.B., Prevatt, D.O. (2017). "High Wind, Hurricanes and Tornadoes." 2017 FLASH Annual National Disaster Resilience Conference, Atlanta, GA, 26-27 October 2017.

- ▶ Roueche, D.B. (2017). "Characterizing Tornado-Induced Wind Loads and Structural Response: A Joint Empirical, Experimental and Numerical Approach." Faculty and Graduate Student Seminar, University of Kentucky, February 14, 2017.
- ▶ Roueche, D.B. (2017). "Tornado-induced Wind Loads and Structural Response: A Fragility Approach with Validation against Post-tornado Damage Assessments." John Hopkins University, February 14, 2017.

## **PUBLICATIONS**

### **Peer-Reviewed Journal Articles (Published or to appear)**

1. Egnew, A.C., Roueche, D.B., Prevatt, D.O. "The Influence of Residential Building Attributes on Observed Tornado-Induced Damage" *Natural Hazards Review* (Accepted)
2. Roueche, D.B., Prevatt, D.O., Lombardo, F.T. "Uncertainties in Fragility Curves Derived From Post-Disaster Damage Assessments." *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, 4(2), 04018015
3. Roueche, D.B., Lombardo, F.T., and Prevatt, D.O. (2017). "Empirical Approach to Evaluating the Tornado Fragility of Residential Structures." *Journal of Structural Engineering*, 143(9), 04017123.
4. Peng, X., Roueche, D. B., Prevatt, D. O., and Gurley, K. R. (2016). "An Engineering-Based Approach to Predict Tornado-Induced Damage." *Multi-hazard Approaches to Civil Infrastructure Engineering*, P. Gardoni, and M. J. LaFave, eds., Springer International Publishing, Cham, 311-335.
5. Prevatt, D.O. and Roueche, D.B.. "A Tale of Two Houses: Investigation of Disproportionate Damage in 2011 Tuscaloosa, AL Tornado." *Wood Design Focus*, V. 25, N. 1, Spring 2015.
6. Lombardo, F.L., Roueche, D.B., Prevatt, D.O. "Comparison of Two Methods of Near-Surface Wind Speed Estimation in the 22 May, 2011 Joplin, MO Tornado." *Journal of Wind Engineering and Industrial Aerodynamics*, Volume 138, March 2015, Pages 87-97, ISSN 0167-6105, <http://dx.doi.org/10.1016/j.jweia.2014.12.007>.
7. Roueche, D.B., Prevatt, D.O., Haan, F.L., Datin, P.L. "An estimate of tornado loads on a wood-frame building using database-assisted design methodology." *Journal of Wind Engineering and Industrial Aerodynamics* 138 (2015): 27-35.
8. Prevatt, D.O., McBride, K. E., Roueche, D. B., Masters, F. J. "Wind Uplift Capacity of Foam-Retrofitted Roof Sheathing Panels Subjected to Rainwater Intrusion." *Journal of Architectural Engineering* (2014), 10.1061/(ASCE)AE.1943-5568.0000151.
9. Roueche, D.B., and Prevatt, D. O. "Residential Damage Patterns Following the 2011 Tuscaloosa, AL and Joplin, MO Tornadoes." *Journal of Disaster Research*, Vol 8.6 (2013): 1061.

### **Conference Proceedings**

1. Pinelli, J. P., Roueche, D. B., Kijewski-Correa, T., Plaz, F., Prevatt, D. O., Zisis, I., Elawady, A., Haan, F., Pei, S., Gurley, K., Rasouli, A., Refan, M., Rhode-Barbarigos, L., and Moravej, M. (2018). "Overview of Damage Observed in Regional Construction During the Passage of Hurricane Irma over the State of Florida." *Forensic Engineering 8th Conference*, ASCE Austin, TX.
2. Roueche, D. B., Lombardo, F. T., Smith, D. J., and Krupar, R. J. (2018). "Fragility assessment of wind-induced residential building damage caused by Hurricane Harvey (2017)." *Forensic Engineering 8th Conference*, ASCE, Austin, TX
3. Prevatt, D. O., Roueche, D. B., Aponte-Bermúdez, L. D., Kijewski-Correa, T., Li, Y., Chardon, P., Cortes, M., López del Puerto, C., Mercado, A., Muñoz, J., and Morales, A. (2018). "Performance of Structures Under Successive Hurricanes: Observations from Puerto

- Rico and the US Virgin Islands after Hurricane Maria." *Forensic Engineering 8th Conference*, ASCE, Austin, TX.
4. Smith, D. J., Roueche, D. B., Krupar, R. J., and Lombardo, F. T. (2018). "Parallels in Tropical Cyclone Design Strategies and Building Performance for Australia and U.S." *Nineteenth Australasian Wind Engineering Society Workshop*, AWES, Torquay, Victoria, Australia.
  5. Prevatt, D.O., Jain, A., Roueche, D.B., Afanasyeva, I.N. "Enhancing the Damage Prediction Capability of a Tornado Risk Assessment Tool." *4th Residential Building Design and Construction Conference*, February 28-March 1, 2018, Bethlehem, PA (10 p.)
  6. Pinelli, J.P., Rodriguez, D., Roueche,D.B., Gurley, K., Baradaranshoraka, M., Cocke, S., Dong-Wook, S., Lapaiche, L., Gay, R. "Data management for the development of a flood vulnerability model." *European Safety and Reliability Conference*, Trondheim, Norway, 17-21 June 2018.
  7. Prevatt, D.O., Bhusar, A.A., Roueche, D.B. "A predictive tool for estimating tornado-induced damage to residential structures – application to the 2015 Garland/Rowlett, TX tornado." *1<sup>st</sup> International Conference on Natural Hazards & Infrastructure*, Chania, Greece, June 28-30 2016.
  8. Roueche, D.B., Prevatt, D.O., Haan, F.L. "The effect of building openings on the net wind pressures on a gable roof structure under tornado loading." *8<sup>th</sup> International Colloquium on Bluff Body Aerodynamics and Applications*, Boston, MA, USA, June 7-11, 2016.
  9. Prevatt, D.O., Roueche, D.B., Gutierrez, A., Bhusar, A. "Advancing tornado research with post-tornado damage assessments." *6<sup>th</sup> US-Japan Workshop on Wind Engineering*, Tokyo, Japan, May 12-14, 2016.
  10. Roueche, D. B., Prevatt, D. O., Lombardo, F. T. (2016) "Fragility Assessment of Residential Building Performance under Tornado Loading using Post-disaster Damage Data." *ASCE Geo-Structures Congress*, Phoenix, AZ. February 15, 2016
  11. Smith, D.J., Roueche, D.B., Thompson, A.P., Prevatt, D.O. "A Vulnerability Assessment Tool for Residential Structures in Extreme Wind Events." *International Conference on Performance-based and Life-cycle Structural Engineering*, Brisbane, Australia, December 9-11, 2015.
  12. Roueche, D.B., Lombardo, F.T., Prevatt, D.O. "Development of Empirically-Based Fragilities of Residential Damage in the 2011 Joplin, Missouri Tornado." *14<sup>th</sup> International Conference on Wind Engineering*, Porto Alegre, Brazil, June 21-26, 2015.
  13. Roueche, D.B., Prevatt, D.O., Haan, F.L.; Datin, P.L.; "An Estimate of Tornado Loads on a Wood-frame Building using Database-Assisted Design Methodology." *The 12th Americas Conference on Wind Engineering*, Seattle, Washington, USA, June 16-20, 2013
  14. Roueche, D.B., Eixenberger, J., Prevatt, D.O., McBride, K.E., Masters, F.J.; "Wind Uplift Capacity of Foam-Retrofitted Sheathing Subjected to Water Leaks", *1<sup>st</sup> Residential Building Design and Construction Conference*, February 20-21, 2013, Bethlehem, PA (10 p.)
  15. Roueche, D.B., Prevatt, D.O.; "Residential Damage Patterns Following the 2011 Tuscaloosa, AL and Joplin, MO Tornadoes", *1<sup>st</sup> Residential Building Design and Construction Conference*, February 20-21, 2013, Bethlehem, PA (10 p.)
  16. McBride, K.; Roueche, D.B.; Prevatt, D.O.; Masters, F.J.; "Effect of Roof Leaks on Strength of Foam-Retrofitted Wood Roof Sheathing Panels" *ATC&SEI Advances in Hurricane Engineering Conference*, 24-26 October 2012, Miami, FL (10 p.)
  17. Prevatt, D.O.; Roueche, D.B.; Graettinger, A.; van de Lindt, J.W.; Grau, D.; Gupta, R.; Pei, S.; Coulbourne, W.L.; "Building Damage Observations and EF Classifications from the Tuscaloosa, Alabama, and Joplin, Missouri Tornadoes," *ASCE 2012 Structures Congress*, Chicago, IL March 29-31, 2012 (10 pgs.)
  18. Beata, P., Roueche, D.B., Prevatt, D.O. Consolazio, G., Datin, P.L.; "Database Assisted Design Approach for Performance of Light-Frame Wood Buildings in Hurricanes and Tornadoes," *First International Conference on Performance-based and Life-Cycle Structural Engineering Mini-Symposium: Performance-Based Design of Wood Buildings for Natural Hazards Loading*, 5-7 Dec. 2012, Hong Kong, China (10 p.)

## Other Publications

1. Krupar, R.J., Roueche, D.B., Smith, D.J., Lombardo, F.T. (2017). "Structural Investigation of Coatsal Wind- and Surge-Induced Residential Building Damage Caused by Hurricane Harvey (2017)" NSF Natural Hazard Engineering Research Infrastructure DesignSafe CyberInfrastructure Recon Portal. Available at [https://www.designsafe-ci.org/data/browser/public/designsafe.storage.community/%2FHurricane%20Harvey%20Resources%2FSummary%20of%20Hurricane%20Harvey%20Damage%20Investigation-r2\\_Final.pdf](https://www.designsafe-ci.org/data/browser/public/designsafe.storage.community/%2FHurricane%20Harvey%20Resources%2FSummary%20of%20Hurricane%20Harvey%20Damage%20Investigation-r2_Final.pdf)
2. Gutierrez, A.M., Roueche, D.B., Bhusar, A., Prevatt, D.O. "Preliminary Report on AAWE-Sponsored Damage Survey of Christmas Day Tornado, Dallas, TX." AAWE Newsletter, October/November 2016.
3. Prevatt, D.O., Roueche, D.B., Lombardo, F.T. "Changing the Paradigm of Tornado Design Based on Evidence from the 22 May, 2011 Joplin, MO Tornado" AAWE Newsletter, August/September 2015.
4. Revision Editor, "Residential Structural Design Guide", 2014 Edition, U.S. Department of Housing and Urban Development, Washington, D.C.
5. Roueche, D.B., Prevatt, D.O., Lombardo, F.T., Bhusar, A., Rahate, S., Jain, A., Egnew, A., Mimms, M., Gutierrez, A., Nevill, J. Rhee, D. "The 21-22 January 2017 Southeastern US Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2017/01/20-22-January-2017-SE-Tornado-Outbreak.pdf> >
6. Roueche, D.B., Prevatt, D.O., Gutierrez, A.M., Bhusar, A., Rahate, S. "20 May 2016 University of Florida Tornado and Severe Weather Report." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2016/05/20-May-2016-Tornado-on-University-of-Florida-Campus.pdf> >
7. Roueche, D.B., Prevatt, D.O., Bhusar, A.A., Gutierrez, A.M., Shah, A.D., Talele, M.S., Viswanathan, A. "The 2015 Christmas Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2015/12/The-2015-Christmas-Tornado-Outbreak1.pdf> >.
8. Roueche, D.B., Prevatt, D.O. "The 25 September 2015 Johns Island, SC Tornado". Wind Hazard Damage Assessment Group Report. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/09/25-September-2015-Johns-Island-SC-Tornado-Report\\_Final.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/09/25-September-2015-Johns-Island-SC-Tornado-Report_Final.pdf) >.
9. Thompson, A., Roueche, D.B., Ammons, M., Doreste, J., Prevatt, D.O. "The 6 May 2015 Great Plains Tornado Outbreak and Flooding" Wind Hazard Damage Assessment Group Report. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/05/6-May-2015-Oklahoma-Tornado-Summary-Report\\_Final.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/05/6-May-2015-Oklahoma-Tornado-Summary-Report_Final.pdf) >
10. Roueche, D.B., Doreste, J., Prevatt, D.O. "The 9 April 2015 Illinois Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/04/9-April-2015-Illinois-Tornado-Summary-Report\\_FINAL.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/04/9-April-2015-Illinois-Tornado-Summary-Report_FINAL.pdf) >
11. Smith, D.J., Boughton, G., Falck, D., Henderson, D., Prevatt, D.O., Roueche, D.B. "Tropical Cyclone Nathan, Far North Queensland, Australia, March 20, 2015" University of Florida Wind Hazard Damage Assessment Group and Cyclone Testing Station Preliminary Damage Assessment Team. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/03/TC-Nathan-Rapid-Assessment-Report-21\\_03\\_2015.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/03/TC-Nathan-Rapid-Assessment-Report-21_03_2015.pdf) >.
12. Smith, D.J., Boughton, G., Falck, D., Henderson, D., Prevatt, D.O., Roueche, D.B. "Tropical Cyclone Olwyn, WA, Australia March 11-14<sup>th</sup>, 2015." University of Florida Wind Hazard Damage Assessment Group and Cyclone Testing Station Preliminary Damage Assessment Team. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/03/TC-Olwyn-Rapid-Assessment-Report-16\\_03\\_2015.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/03/TC-Olwyn-Rapid-Assessment-Report-16_03_2015.pdf) >.

13. Henderson, D., Smart, A., Humphreys, M., Parackal, K., Mason, M., Prevatt, D.O., Roueche, D.B. "Tropical Cyclone Marcia, Queensland, Australia." University of Florida Wind Hazard Damage Assessment Group and Cyclone Testing Station Preliminary Damage Assessment Team. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/02/TC-Marcia-Rapid-Assessment-Report-20\\_02\\_20151.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/02/TC-Marcia-Rapid-Assessment-Report-20_02_20151.pdf) >.
14. Roueche, D.B., Doreste, J., Smith, D. J., Prevatt, D.O. "New South Wales, Australia Severe Storm: October 14<sup>th</sup>, 2014." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2015/09/Sydney-14th-October-2014-Severe-Storm-UNIV-FLORIDA.pdf> >
15. Roueche, D.B., Doreste, J., Prevatt, D.O. "Damage Summary of June 16-18, 2014 Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2014/12/UNIVERSITY-OF-FLORIDA-Summary-of-June-16-18-2014-Tornado-Outbreak.pdf> >
16. Roueche, D.B., Doreste, J., Egnew, A., Prevatt, D.O. "The 27<sup>th</sup> April 2014 Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2014/12/Summary-of-April-27-2014-Tornado-Outbreak.pdf> >
17. Roueche, D.B., Doreste, J., Prevatt, D.O. "The 11<sup>th</sup> January 2014 Wind Damage and Collapse of the Brier Creek Condominiums in Brier Creek, NC." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2013/05/11-January-2014-Brier-Creek-NC-Condos-Colla.pdf> >
18. Roueche, D.B., Smith, D.J., Prevatt, D.O. "Summary of 14 December 2013 Palm Coast, FL Tornado." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2014/07/Summary-of-14-December-2013-Palm-Coast-FL-Tornado.pdf> >.
19. Roueche, D.B., Thompson, A.B., Elsbibi, N., Doreste, J., Egnew, A., Prevatt, D.O. "The November 17<sup>th</sup> 2013 Illinois Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2015/04/9-April-2015-Illinois-Tornado-Summary-Report\\_FINAL.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2015/04/9-April-2015-Illinois-Tornado-Summary-Report_FINAL.pdf) >
20. Roueche, D.B., Doreste, J., Egnew, A., Prevatt, D.O. "The 1 August 2013 Tornado in Jacksonville, FL." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2013/08/Jacksonville-Tornado-1-Aug-2013-Summary-UNIV-FLORIDA.pdf> >
21. Roueche, D.B., Thompson, A.B., Doreste, J., Prevatt, D.O. "Damage from the 20 May 2013 Tornado in Moore, OK." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2013/05/Moore-Tornado-20-May-2013-TORNADO-Summary-UNIV-FLORIDA.pdf> >
22. Roueche, D.B., Vo, T., Kerr, A., Thompson, A.B., Peng, X., Egnew, A, Prevatt, D.O. "Damage Summary of the 15<sup>th</sup> May, 2013 North Texas Tornado Outbreak." Wind Hazard Damage Assessment Group Report. Available at < [http://windhazard.davidoprevatt.com/wp-content/uploads/2013/05/Summary-of-North-Texas-Tornado-Outbreak-on-May-15th\\_Final.pdf](http://windhazard.davidoprevatt.com/wp-content/uploads/2013/05/Summary-of-North-Texas-Tornado-Outbreak-on-May-15th_Final.pdf) >
23. Roueche, D.B., Doreste, J., Prevatt, D.O. "Summary of Damage from 8 June 2014 Severe Storm in Newberry, Florida." Wind Hazard Damage Assessment Group Report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2014/12/Alachua-8th-June-2014-Severe-Storm-UNIV-FLORIDA.pdf> >
24. Roueche, D.B., Kerr, A., Peng, X., Prevatt, D.O. "Summary of June 24, 2012 Lake Placid, FL Tornado". Wind Hazard Damage Assessment Group report. Available at < <http://windhazard.davidoprevatt.com/wp-content/uploads/2012/10/June-24-Lake-Placid-Tornado-Damage-Survey.pdf> >.

## **PRESENTATIONS**

## Oral Conference Presentations

1. Roueche, D.B., Lombardo, F.T., Krupar, R.J., Smith, D.J., Soto, M. G. (2017) "Observations of Building Performance under Combined Wind and Surge Loading from Hurricane Harvey." AGU Fall Meeting, New Orleans, LA, 11-15 December 2017.
2. Roueche, D.B., Wood, B., Prevatt, D.O. (2017). "Feasibility of Tornado Resilient Residential Construction." The 13th Americas Conference on Wind Engineering, Gainesville, FL, USA, May 22-24, 2013.
3. Egnew, A., Roueche, D.B., Prevatt, D.O. (2017). "A Predictive Model for Structural Tornado Damage to Residential Structures using Housing Data from the 2011 Joplin, MO Tornado." The 13th Americas Conference on Wind Engineering, Gainesville, FL, USA, May 22-24, 2013.
4. Roueche, D.B., Prevatt, D.O., Lombardo, F.T. "Assessing Uncertainties in Empirical Tornado Fragility Functions." ASCE Structures Congress, Denver, CO, USA, April 6-8, 2017.
5. Roueche, D.B., Prevatt, D.O., Lombardo, F.T. "Comparison of Analytical and Empirical Tornado Fragilities for Wood Frame Residential Structures." ASCE Structures Congress, Denver, CO, USA, April 6-8, 2017.
6. Roueche, D. B., Prevatt, D. O., and Doreste, J. (2016). "Educating and Engaging Communities on Impacts of Severe Weather through Fast Response Engineering Assessments of Social Media Data." 96th American Meteorological Society Annual Meeting, New Orleans, LA, USA, January 10-15, 2016.
7. Roueche, D.B., Lombardo, F.T., Prevatt, D.O. "Development of Empirically-Based Fragilities of Residential Damage in the 2011 Joplin, Missouri Tornado." 14<sup>th</sup> International Conference on Wind Engineering, Porto Alegre, Brazil, June 21-26, 2015.
8. Roueche, D.B., Prevatt, D.O., Haan, F.L. "The Effect of Building Leakage and Openings on the Structural Reactions in a Light Wood-frame Structure under Tornado Loading." 14<sup>th</sup> International Conference on Wind Engineering, Porto Alegre, Brazil, June 21-26, 2015
9. Roueche, D.B., Prevatt, D.O., Haan, F.L.; Datin, P.L; "An Estimate of Tornado Loads on a Wood-frame Building using Database-Assisted Design Methodology." The 12th Americas Conference on Wind Engineering, Seattle, Washington, USA, June 16-20, 2013
10. Roueche, D. B; Prevatt, D. O.; "Residential Damage Patterns Following the 2011 Tuscaloosa, AL and Joplin, MO Tornadoes", 2013 Federal Alliance for Safe Homes Annual Conference, Orlando, FL, November 20, 2013
11. Roueche, D.B., Eixenberger, J., Prevatt, D.O., McBride, K.E., Masters, F.J.; "Wind Uplift Capacity of Foam-Retrofitted Sheathing Subjected to Water Leaks", 1<sup>st</sup> Residential Building Design and Construction Conference, February 20-21, 2013, Bethlehem, PA (10 p.)
12. Roueche, D.B., Prevatt, D.O.; "Residential Damage Patterns Following the 2011 Tuscaloosa, AL and Joplin, MO Tornadoes", February 20-21, 2013, Bethlehem, PA (10 p.)
13. McBride, K.; Roueche, D.B; Prevatt, D.O.; Masters, F.J.; "Effect of Roof Leaks on Strength of Foam-Retrofitted Wood Roof Sheathing Panels" ATC&SEI Advances in Hurricane Engineering Conference, 24-26 October 2012, Miami, FL (10 p.)