

Sungmoon Jung

Department of Civil and Environmental Engineering
FAMU-FSU Engineering (A joint college by Florida A&M and Florida State University)
2525 Pottsdamer Street
Tallahassee, Florida 32310-2870
Phone: 850-410-6386
Email: sjung@eng.famu.fsu.edu
Web: <http://eng.famu.fsu.edu/~sjung>

Research Interests

Structural engineering and mechanics focusing on wind loading and impact loading; Wind energy; Vehicle safety; Applications of machine-learning in mechanics problems.

Professional Appointments

Professor, Civil and Environmental Engineering, FAMU-FSU College of Engineering, 2020 – present
Associate Professor, Civil and Environmental Engineering, FAMU-FSU College of Engineering, 2014 – 2020
Visiting Professor, Civil and Environmental Engineering, Seoul National University, 2018 Spring
Assistant Professor, Civil and Environmental Engineering, FAMU-FSU College of Engineering, 2008 – 2014
Staff Engineer, Caterpillar Champaign Simulation Center (Belcan Corporation), 2006 – 2008
Postdoctoral Research Associate, University of Illinois at Urbana-Champaign, 2005

Education

Ph.D.	University of Illinois at Urbana-Champaign	Civil Engineering (Structural Eng.)	2004
M.S.	Seoul National University	Civil Engineering (Structural Eng.)	1999
B.S.	Seoul National University	Civil Engineering	1997

Publications and Scholarly Works

Peer-Reviewed Journal Papers

Underline: indicates current or former student

1. Kakareko, G., Jung, S., & Ozguven, E.E. (under review), Estimation of tree failure consequences due to high winds using convolutional neural networks
2. Seyedi, M. R., Jung, S., & Wekezer, J. (in press), A comprehensive assessment of bus rollover crashes: integration of dynamic and finite element simulation methods, *International Journal of Crashworthiness*
3. Kakareko, G., Jung, S., Mishra, S., & Vanli, O. A. (in press), Bayesian capacity model for hurricane vulnerability estimation, *Structure and Infrastructure Engineering*
4. Martin, S., Jung, S., & Vanli, O. A. (2020), Impact of near-future turbine technology on the wind power potential of low wind regions, *Applied Energy*, 272, 115251
5. Seyedi, M. R., & Jung, S. (2020), Numerical assessment of occupant responses during the bus rollover test: a finite element parametric study, *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*, 234, 2195-2215
6. Seyedi, M. R., Jung, S., Wekezer, J., Kerrigan, J. R., & Gepner, B. (2020), Rollover crashworthiness analyses – an overview and state of the art, *International Journal of Crashworthiness*, 25, 328-350
7. Kakareko, G., Jung, S., & Vanli, O. A. (2020), Hurricane risk analysis of the residential structures located in Florida, *Sustainable and Resilient Infrastructure*, 5, 395-409
8. Han, S.-W., Park, Y. C., Kang, S.-C., Jung, S., & Kim, H.-K. (2019), Collapse analysis of ERW pipe based on roll-forming and sizing simulations, *Journal of Marine Science and Engineering*, 7, 410
9. Seyedi, M. R., Jung, S., Dolzyk, G., & Wekezer, J. (2019). Experimental assessment of vehicle performance and injury risk for cutaway buses using tilt table and modified dolly rollover tests, *Accident Analysis & Prevention*, 132, 105287
10. Dolzyk, G., & Jung, S. (2019), Tensile and fatigue analysis of 3D-printed polyethylene terephthalate glycol (PETG), *Journal of Failure Analysis and Prevention*, 19, 511-518
11. Nicholson, D., Vanli, A., Jung, S., & Ozguven, E. (2019), A spatial regression and clustering method for place-specific social vulnerability indices, *International Journal of Disaster Risk Reduction*, 38, 101224
12. Fung, K., Jung, S. & Sobanjo, J. (2019), Main effects of driving postures changes in frontal collisions due to aging, *International Journal of Vehicle Safety*, 11, 74-92
13. Fung, K., Jung, S., Sobanjo, J., & Xu, R. (2019), Development and testing of a simplified dummy for frontal crash, *Experimental Techniques*, 43, 7-14
14. Mishra, S., Vanli, O. A., Kakareko, G., & Jung, S. (2019), Preventive maintenance of wood-framed buildings for hurricane preparedness, *Structural Safety*, 76, 28-39
15. Kocatepe, A, Ulak, M. B., Kakareko, K., Ozguven, E. E., Jung, S., & Arghandeh, R. (2019), Measuring the accessibility of critical facilities in the presence of hurricane-related roadway

- closures and an approach for predicting future roadway disruptions, *Natural Hazards*, 95, 615-635
16. Ok, S., Jung, S., & Song, J. (2018), Multi-objective optimization approach for robust bridge damage identification against sensor noise, *Shock and Vibration*, 3024209
 17. Wicker, M., Alduse, B. P., & Jung, S. (2018), Detection of hidden corrosion in metal roofing shingles utilizing infrared thermography, *Journal of Building Engineering*, 20, 201-207
 18. Ferreira, L., Amirinia, G., & Jung, S. (2018), Surface pressure distribution in patterned cylinders under simulated atmospheric boundary layer winds, *The Structural Design of Tall and Special Buildings*, 27(1), e1404
 19. Kakareko, G., Jung, S., Vanli, O. A., Teclé, A., Khemici, O., & Khater, M. (2017), Hurricane loss analysis based on the population-weighted index, *Frontiers in Built Environment*, 3, 46
 20. Amirinia, G., & Jung, S. (2017), Buffeting response analysis of offshore wind turbines subjected to hurricanes, *Ocean Engineering*, 141, 1-11
 21. Amirinia, G., & Jung, S. (2017), Along-wind response of high-rise buildings subjected to hurricane boundary layer winds, *ASCE Journal of Structural Engineering*, 143, 04017087
 22. Amirinia, G., & Jung, S. (2017), Along-wind buffeting responses of wind turbines subjected to hurricanes considering unsteady aerodynamics of the tower, *Engineering Structures*, 138, 337-350
 23. Mishra, S., Vanli, O. A., Alduse, B. P., & Jung, S. (2017), Hurricane loss estimation in wood-frame buildings using Bayesian model updating: assessing uncertainty in fragility and reliability analyses, *Engineering Structures*, 135, 81-94
 24. Patil, A., Jung, S., & Kwon, O. S. (2016), Structural performance of a wind turbine tower subjected to strong ground motions, *Engineering Structures*, 120, 92-102
 25. Gepner, B., Gleba, M., Jung, S., & Wekezer, J. (2016), Strain rate dependency in paratransit bus rollover, *International Journal of Heavy Vehicle Systems*, 23, 1-20
 26. Jung, S., Kim, S. R., Patil, A., & Hung, L. C. (2015), Effect of monopile foundation on the structural response of a 5-MW offshore wind turbine tower, *Ocean Engineering*, 109, 479-488
 27. Alduse, B. P., Jung, S., Vanli, O. A., & Kwon, S. D. (2015), Effect of uncertainties in wind speed and direction on the fatigue damage of long-span bridges, *Engineering Structures*, 100, 468-478
 28. Alduse, B. P., Jung, S., & Vanli, O. A. (2015), Condition-based updating of the fragility for roof covers under high winds, *Journal of Building Engineering*, 2, 36-43
 29. Vanli, O. A., & Jung, S. (2014), Statistical updating of finite element model with Lamb wave sensing data for damage detection problems, *Mechanical Systems and Signal Processing*, 42, 137-151

30. Jung, S., & Masters, F. J. (2013), Characterization of open and suburban boundary layer wind turbulence in 2008 Hurricane Ike, *Wind and Structures*, 17, 135-162
31. Jung, S., & Kwon, S. D. (2013), Weighted error functions in artificial neural networks for improved wind energy potential estimation, *Applied Energy*, 111, 778-790
32. Lewis, J., Jung, S., & Mtenga, P. (2013), Performance of screen enclosures under repeated loading cycles, *ASCE Journal of Performance of Constructed Facilities*, 27, 415-423
33. Jung, S., Vanli, O. A., & Kwon, S. D. (2013), Wind energy potential assessment considering the uncertainties due to limited data, *Applied Energy*, 102, 1492-1503
34. Schellhammer, M., & Jung, S. (2012), Assessment of aluminum screen enclosure connections subjected to strong winds, *Engineering Structures*, 43, 78-87
35. Patil, A., Jung, S., Lee, S., & Kwon, S. D. (2011), Mitigation of vortex-induced vibrations in bridges under conflicting objectives, *Journal of Wind Engineering and Industrial Aerodynamics*, 99(12), 1243-1252
36. Jung, S., & Ghaboussi, J. (2010), Inverse identification of creep of concrete from in situ load-displacement monitoring, *Engineering Structures*, 32(5), 1437-1445
37. Jung, S., Ok, S. Y., & Song, J. (2010), Robust structural damage identification based on multi-objective optimization, *International Journal for Numerical Methods in Engineering*, 81(6), 786-804
38. Song, J., Kang, W. H., Kim, K. S., & Jung, S. (2010), Probabilistic shear strength models for reinforced concrete beams without shear reinforcement, *Structural Engineering and Mechanics*, 34(1), 15-38
39. Hashash, Y. M. A., Song, H., Jung, S., & Ghaboussi, J. (2009), Extracting inelastic metal behaviour through inverse analysis: a shift in focus from material models to material behavior, *Inverse Problems in Science and Engineering*, 17(1), 35-50
40. Jung, S., & Kim, K. S. (2008), Knowledge-based prediction of shear strength of concrete beams without shear reinforcement, *Engineering Structures*, 30(6), 1515-1525
41. Fu, Q. W., Hashash, Y. M. A., Jung, S., & Ghaboussi, J. (2007), Integration of laboratory testing and constitutive modeling of soils. *Computers and Geotechnics*, 34(5), 330-345
42. Jung, S., Ghaboussi, J., & Marulanda, C. (2007), Field calibration of time-dependent behavior in segmental bridges using self-learning simulation, *Engineering Structures*, 29(10), 2692-2700
43. Hashash, Y. M. A., Marulanda, C., Ghaboussi, J., & Jung, S. (2006), Novel approach to integration of numerical modeling and field observations for deep excavations, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 132(8), 1019-1031

44. Jung, S., & Ghaboussi, J. (2006), Characterizing rate-dependent material behaviors in self-learning simulation, *Computer Methods in Applied Mechanics and Engineering*, 196(1-3), 608-619
45. Jung, S., & Ghaboussi, J. (2006), Neural network constitutive model for rate-dependent materials, *Computers & Structures*, 84(15-16), 955-963
46. Hashash, Y. M. A., Jung, S., & Ghaboussi, J. (2004), Numerical implementation of a neural network based material model in finite element analysis, *International Journal for Numerical Methods in Engineering*, 59(7), 989-1005
47. Jung, S., Ghaboussi, J., & Kwon, S. D. (2004), Estimation of aeroelastic parameters of bridge decks using neural networks, *ASCE Journal of Engineering Mechanics*, 130(11), 1356-1364
48. Hashash, Y. M. A., Marulanda, C., Ghaboussi, J., & Jung, S. (2003), Systematic update of a deep excavation model using field performance data, *Computers and Geotechnics*, 30(6), 477-488
49. Kwon, S. D., Jung, S., & Chang, S. P. (2000), A new passive aerodynamic control method for bridge flutter, *Journal of Wind Engineering and Industrial Aerodynamics*, 86(2-3), 187-202

Conference Papers and Presentations

1. Han, S.-W., Kang, S.-C., Jung, S., Park, Y. C., & Kim, H.-K. (2019), Evaluation of structural performance of the pipe considering ERW pipe manufacturing process through numerical analysis, 29th International Ocean and Polar Engineering Conference, Honolulu, Hawaii, USA, June 16-21
2. Jung, S., Amirinia, G., & Kakareko, G. (2019), Analysis of hurricane wind effects on buildings and community, Structures Congress 2019, Orlando, Florida, USA, April 24-27 [JX]
3. Jung, S., Seyedi, M. R., Dolzyk, G., & Wekezer, J. (2019), Toward injury-based rollover crashworthiness assessment of cutaway bus, Structures Congress 2019, Orlando, Florida, USA, April 24-27 [JX]
4. Seyedi, M. R., Dolzyk, G., Jung, S., & Wekezer, J. (2019), Characteristic analysis of dolly rollover test: a study of effects of initial conditions on the kinematics of the vehicle and occupants, 37th International Modal Analysis Conference, Society of Experimental Mechanics, Orlando, Florida, USA, January 28-31
5. Seyedi, M. R., Dolzyk, G., Jung, S., & Wekezer, J. (2018), Skin performance in the rollover crashworthiness analysis of cutaway bus, 36th International Modal Analysis Conference, Society of Experimental Mechanics, Orlando, Florida, USA, February 12-15
6. Amirinia, G., Jung, S., & Kakareko, G. (2018), Effect of piezoelectric material in mitigation of aerodynamic forces, 36th International Modal Analysis Conference, Society of Experimental Mechanics, Orlando, Florida, USA, February 12-15

7. Jung, S., & Amirinia, G. (2018), Hurricane effects on offshore wind turbines considering tower aerodynamics, 2018 Wind Energy Symposium (pp. 1733), Kissimmee, Florida, USA, January 8-12
8. Amirinia, G., & Jung, S. (2017), Low cycle fatigue analysis of offshore wind turbines subjected to hurricane, Proceedings of the ASME 2017 36th International Conference on Ocean, Offshore and Arctic Engineering (OMAE 2017), Trondheim, Norway, June 25-30 [J]
9. Jung, S., Kakareko, G., Ozguven, E. E., & Weresa, S. (2017), A new approach for road closure probability estimation caused by hurricane winds, Engineering Mechanics Institute 2017, San Diego, California, USA, June 4-7 [JX]
10. Amirinia, G., & Jung, S. (2017), Comparison of loads from IEC 61400-3 extreme conditions with loads from recently observed hurricane models, Proceeding of the 13th Americas Conference on Wind Engineering, Gainesville, Florida, USA, May 21-24
11. Al-Kaimakchi, A., Jung, S., Rambo-Roddenberry, M., & Amirinia, G. (2017), Optimization of alternative towers for wind turbines in low wind resource regions, Proceeding of the 13th Americas Conference on Wind Engineering, Gainesville, Florida, USA, May 21-24
12. Kakareko, G., Jung, S., Vanli, O. A., Tecele, A., Khemici, O., & Khater, M. (2017), Hurricane loss analysis of wood-frame structures in Florida, Proceeding of the 13th Americas Conference on Wind Engineering, Gainesville, Florida, USA, May 21-24
13. Dolzyk, G., Seyedi, M. R., Jung, S. & Wekezer, J. (2017), Experimental and analytical studies of rollover accidents of cutaway buses, Verification and Validation Symposium 2017, Las Vegas, Nevada, USA, May 3-5 [X]
14. Seyedi, M. R., Dolzyk, G., Jung, S. & Wekezer, J. (2017), Experimental and numerical analysis of injury risk in side impacted cutaway bus, Verification and Validation Symposium 2017, Las Vegas, Nevada, USA, May 3-5 [X]
15. Fung, K., Jung, S. & Sobanjo, J. (2016), Main effects of driving postures changes in frontal collisions due to aging, International Conference on Transport and Health (ICTH) 2016, San Jose, CA, USA, June 13-15 [X]
16. Amirinia, G., & Jung, S. (2016), Time domain analysis of unsteady aerodynamic forces on a parked wind turbine tower subjected to high winds, 8th International Colloquium on Bluff Body Aerodynamics and Applications, Boston, MA, USA, June 7-11
17. Kakareko, G., Jung, S., Vanli, O. A., & Mishra, S. (2016), Vulnerability estimation of low-rise buildings against wind hazard considering uncertainty in building components, Engineering Mechanics Institute Conference 2016, Nashville, TN, USA, May 22-26 [X]
18. Amirinia, G., & Jung, S. (2016), Dynamics of wind turbine structure subjected to hurricane winds, Engineering Mechanics Institute Conference 2016, Nashville, TN, USA, May 22-26 [X]

19. Mishra, S., Vanli, O. A., Huffer, F. W., & Jung, S. (2016), Regularized discriminant analysis for multi-sensor decision fusion and damage detection with Lamb-waves, SPIE Smart Structures / NDE Conference, Las Vegas, Nevada, USA, March 20-24
20. Amirinia, G., & Jung, S. (2016), Hurricane effects on wind turbines, Federal Alliance for Safe Homes (FLASH) 2016, Orlando, FL, USA, January 28-29 [X]
21. Vanli, O. A., Mishra, S., Jung, S., & Alduse, B. P., (2015), Integration of computer and physical experiments for improving predictive inference: an application for property loss estimation due to hurricane winds”, INFORMS Annual Meeting, Philadelphia, PA, USA, Nov 1-4, 2015 [X]
22. Jung, S., Vanli, O. A., & Alduse, B. P. (2015), A framework for assessing wind hazard on buildings considering uncertainties in structural performance, Engineering Mechanics Institute 2015, American Society of Civil Engineers, Stanford University, California, USA, June 16-19 [JX]
23. Gleba, M., Siervogel, J., Wekezer, J., & Jung, S. (2015), Testing program for crashworthiness assessment of cutaway buses, SEM 2015 Annual Conference and Exposition on Experimental and Applied Mechanics, Costa Mesa, California, USA, June 8-11
24. Amirinia, G., Jung, S., & Alduse, B. P. (2015), Effect of different hurricane spectrums on wind turbine loads and responses, Windpower 2015, American Wind Energy Association, Orlando, Florida, USA, May 15-21 [#]
25. Jung, S., Kim, S.-R., Patil, A., & Hung, L. C. (2013), Effect of foundation modeling on the structural response of offshore wind turbines, 12th Americas Conference on Wind Engineering (12ACWE), American Association for Wind Engineering, Seattle, Washington, USA, June 16-20 [J]
26. Kwon, S.-D., Alduse, B. P., Jung, S., & Vanli, O. A. (2013), Bayesian approach for fatigue damage assessment of a bridge under gust, 12th Americas Conference on Wind Engineering (12ACWE), American Association for Wind Engineering, Seattle, Washington, USA, June 16-20 [J]
27. Vanli, O. A., & Jung, S. (2012), Statistical updating of finite element model with Lamb wave sensing data for structural damage detection, INFORMS Annual Meeting, Phoenix, AZ, USA, October 14-17 [X]
28. Jung, S., Munoz, G. J., & Kwon, S.-D. (2012), Mitigation of vortex-induced vibrations of circular cylinders by surface perturbations, Engineering Mechanics Institute 2012, American Society of Civil Engineers, Notre Dame, Indiana, USA, June 17-20 [JX]
29. Jung, S., Vanli, O. A., & Kwon, S.-D. (2012), Wind energy potential assessment considering the uncertainty in wind speed data, Engineering Mechanics Institute 2012, American Society of Civil Engineers, Notre Dame, Indiana, USA, June 17-20 [JX]

30. Jung, S., Alduse, B. P., Vanli, O. A., & Kwon, S.-D. (2011), Effect of uncertainties on the buffeting-induced fatigue of long-span bridges, 13th International Conference on Wind Engineering, International Association for Wind Engineering, Amsterdam, Netherlands, July 11-15 [#]
31. Jung, S., Schellhammer, M., & Lewis, J. (2011), Mitigation of damage on aluminum screen enclosures through improved connections, 13th International Conference on Wind Engineering, International Association for Wind Engineering, Amsterdam, Netherlands, July 11-15 [#]
32. Munoz, G. J., & Jung, S. (2011), Effect of varying actuation frequencies of micro-fiber composites to control vortex-induced vibrations, Engineering Mechanics Institute 2011, American Society of Civil Engineers, Boston, Massachusetts, USA, June 2-4 [X]
33. Jung, S., & Masters, F. J. (2010), Ground-level turbulence characteristics of hurricane wind measured from mobile towers during hurricane Ike, Engineering Mechanics Institute 2010, American Society of Civil Engineers, Los Angeles, California, USA, August 8-11 [J]
34. Jung, S., Sobanjo, J. O., & Munoz, G. J. (2010), Visualization and assessment of the aging infrastructure using self-organizing map, 19th Analysis & Computation Specialty Conference, 2010 Structures Congress, American Society of Civil Engineers, Orlando, Florida, USA, May 12-15 [J]
35. Jung, S., Ok, S.-Y., & Song, J. (2010), Structural damage identification based on multi-objective optimization, IMAC XXVIII A Conference and Exposition on Structural Dynamics, Society for Experimental Mechanics, Jacksonville, Florida, USA, February 1-4 [J]
36. Patil, A., Jung, S., & Kwon, S.-D. (2010), Mitigation of vortex-induced vibrations in long-span bridges, IMAC XXVIII A Conference and Exposition on Structural Dynamics, Society for Experimental Mechanics, Jacksonville, Florida, USA, February 1-4
37. Jung, S., Ok, S.-Y., & Song, J. (2009), Benchmark problem on health monitoring of highway bridges: a multi-objective optimization based approach, 2009 TRB Conference on Developing a Research Agenda for Transportation Infrastructure Preservation and Renewal, Transportation Research Board, Washington D.C., USA, November 12-13 [#]
38. Jung, S., Patil, A., & Kwon S.-D. (2009), Optimum retrofit of long-span bridges under conflicting objectives, 11th Americas Conference on Wind Engineering, American Association for Wind Engineering, San Juan, Puerto Rico, June 22-26 [J]
39. Bae, H., Jung, S., Repalle, J., & Ha, C. (2008), Subspace-based reliability method (SBRM) for sequential improvement of probability estimation, 49th AIAA/ASME/ASCE/AHS/ASC Structures, Structural Dynamics, and Materials Conference, AIAA/ASME/ASCE/AHS/ASC, Schaumburg, Illinois, USA, April 7-10
40. Jung, S., Ok, S.-Y., & Song, J. (2008), Structural damage detection using multiple measurements of uncertain responses, 49th AIAA/ASME/ASCE/AHS/ASC Structures,

Structural Dynamics, and Materials Conference, AIAA/ASME/ASCE/AHS/ASC, Schaumburg, Illinois, USA, April 7-10 [J]

41. Jung, S., Ok, S.-Y., & Song, J. (2007), Multi-objective optimization based structural condition assessment, ASCE 18th Engineering Mechanics Division Conference (EMD2007), American Society of Civil Engineers, Blacksburg, Virginia, USA, June 3-6 [J]
42. Song, J., Kang, W.-H., Kim, K. S., & Jung, S. (2006), Probabilistic shear strength models for reinforced concrete beams by Bayesian updating based on experimental observations, 5th Computational Stochastic Mechanics Conference (CSM5), International Association for Structural Safety and Reliability, Rodos, Greece, June 21-23
43. Hashash, Y. M. A., Ghaboussi, J., & Jung, S. (2006), Characterizing granular material constitutive behavior using SelfSim with boundary load-displacement measurements, ASCE Earth and Space 2006 - Proceedings of the 10th Biennial International Conference on Engineering, Construction, and Operations in Challenging Environments, American Society of Civil Engineers, Houston, Texas, USA, March 5-8
44. Marulanda, C., Hashash, Y. M. A., Jung, S., & Ghaboussi, J. (2004), Integration of field measurements in model simulation of urban excavations, International Conference on Geotechnical Engineering, International Society of Soil Mechanics and Geotechnical Engineering, Beirut, Lebanon, May 19-22
45. Hashash, Y. M. A., Marulanda, C., Ghaboussi, J., & Jung, S. (2003), Update of a numerical model of a deep excavation using field measurements, 12th Panamerican Conference on Soil Mechanics and Geotechnical Engineering, International Society of Soil Mechanics and Geotechnical Engineering, Cambridge, Massachusetts, USA, June 22-26
46. Hashash, Y. M. A., Ghaboussi, J., Jung, S., & Marulanda, C. (2002), Systematic update of a numerical model of a deep excavation using field performance data, Eighth International Symposium on Numerical Models in Geomechanics - NUMOG VIII, NUMOG, Rome, Italy, April 10-12
47. Hashash, Y. M. A., Ghaboussi, J., Jung, S., & Marulanda, C. (2002), Direct field calibration of model simulations of deep excavations, Plasticity, Damage and Fracture at Macro, Micro and Nano Scales, Numerical Engineering Analysis and Testing, Aruba, January 3-9
48. Kwon, S.-D., Jung, S., & Chang, S.-P. (2000), Passive aerodynamic control of bridge flutter by modifying airflow, Fourth International Colloquium on Bluff Body Aerodynamics and Application, International Association for Wind Engineering, Bochum, Germany, September 11-14

[J] Work presented by S. Jung

[#] Poster presentation and paper

[X] Presentation without paper

Invited Lectures

1. Jung, S. (2019), Wind Effects on Buildings and Community, University of Virginia, November 22
2. Jung, S. (2018), Machine Learning and Structural Health Monitoring, Korea Institute of Civil Engineering and Building Technology, May 29
3. Jung, S. (2018), Wind Turbine Support Structures under Typhoon Loading, Seoul National University, May 24
4. Jung, S. (2018), Wind Turbine Support Structures under Typhoon Loading, Korea Institute of Ocean Science and Technology, May 10
5. Jung, S. (2018), Structural Monitoring and Damage Assessment Using Artificial Neural Network, Korea Institute of Civil Engineering and Building Technology, April 24
6. Jung, S. (2018), Structural Monitoring and Damage Assessment Using Artificial Neural Network, University of Seoul, April 20
7. Jung, S. (2018), Mitigation of Wind and Impact Effects on Structures, University of New Mexico, January 26
8. Jung, S. (2015), Recent Advances in Wind Hazard Research and Future Opportunities, University of Central Florida, May 19
9. Jung, S. (2013), Wind Energy: Fundamentals, Challenges, and Opportunities, FAMU-FSU College of Engineering, September 13
10. Jung, S. (2011), Overview of Wind Engineering Research, FAMU-FSU College of Engineering, November 8
11. Jung, S. (2010), Aerodynamic Analysis of Long-Span Bridges and Smart Structural Systems, Dong-A University, December 16
12. Jung, S. (2009), Computational Intelligence for Material Modeling and Structural Health Monitoring, FAMU-FSU College of Engineering, December 13
13. Jung, S. (2008), Computational Intelligence for Material Modeling and Structural Health Monitoring, High-Performance Materials Institute, October 10
14. Jung, S. (2005), Applications of Artificial Neural Networks in Engineering Problems, Caterpillar Champaign Simulation Center, November 2

Technical Reports

1. Jung, S., Wekezer, J., Siervogel, J., Dolzyk, G., Seyedi, M. R. (2019), Crashworthiness Evaluation of Paratransit Buses, Project Year 2019, Florida Department of Transportation
2. Jung, S., Wekezer, J., Siervogel, J., Dolzyk, G., Seyedi, M. R. (2018), Crashworthiness Evaluation of Paratransit Buses, Project Year 2018, Florida Department of Transportation

3. Jung, S., Wekezer, J., Siervogel, J., Dolzyk, G., Seyedi, M. R. (2017), Crashworthiness Evaluation of Paratransit Buses, Project Year 2017, Florida Department of Transportation
4. Wekezer, J., Jung, S., Siervogel, J., Dolzyk, G., Seyedi, M. R. & Gleba, M. (2016), Crashworthiness Evaluation of Paratransit Buses, Project Year 2015-16, Florida Department of Transportation
5. Wekezer, J., Jung, S., Siervogel, J., & Gleba, M. (2015), Crashworthiness Evaluation of Paratransit Buses, Project Year 2014-15, Florida Department of Transportation
6. Masters, F. J., & Jung, S. (2014), Full Scale Wind Load Testing of Aluminum Screen Enclosures, Florida Building Commission (PO Number A95F33)
7. Wekezer, J., Jung, S., Kwasniewski, L., Siervogel, J., Gepner, B., & Gleba, M. (2014), Crashworthiness Evaluation of Paratransit Buses, Project Year 2013-14, Florida Department of Transportation.
8. Roddenberry, M., Jung, S., & Patil, A. (2014), Axle Equivalent Transverse Loading on Segmental Bridge Decks, Florida Department of Transportation (BDK83 977-16)
9. Wekezer, J., Kwasniewski, L., Jung, S., Siervogel, J., Gepner, B., & Armaghani, S. (2013), Crashworthiness Evaluation of Paratransit Buses, Florida Department of Transportation
10. Jung, S., Patil, A., & Alduse, B. P. (2012), Integrated Aerodynamic Analysis for Long-Span Cable Bridges, Korean Institute of Construction and Transportation Technology Evaluation and Planning
11. Wekezer, J., Kwasniewski, L., Jung, S., Siervogel, J., Gepner, B., Turley, J., & Armaghani, S. (2012), Crashworthiness Evaluation of Paratransit Buses, Florida Department of Transportation
12. Jung, S., Mtenga, P., Lewis, J., & Stilson, A. (2011), Assessment of Retrofit Options for Aluminum Screen Enclosures to Assist Mitigation Planning, Florida Division of Emergency Management Residential Construction Mitigation Program (11-RC-62-13-00-22-314)
13. Jung, S., Roddenberry, M. D., & Stilson, A. (2011), Evaluation of the Altimeter for Measuring Bridge Deflections, Florida Department of Transportation (BDK83 TWO #988-05)
14. Schellhammer, M., & Jung, S. (2011), Testing of Connections to Improve Hurricane Resistance of Aluminum Structures, Florida Catastrophic Storm Risk Management Center
15. Jung, S., Schellhammer, M., & Lewis, J. (2010), Mitigation of Damage on Aluminum Structures through Improved Connections, Florida Division of Emergency Management Residential Construction Mitigation Program (10-RC-26-13-00-22-207)

Patented Inventions

1. Norato, J. A., Jung, S., Athreya, B. P., & Ha, C. (2012), Method and system for determining welding sequences, United States Patent Application 20120325782, Caterpillar

2. Kwon, S.-D., Jung, S., & Chang, S.-P. (2001), Aerodynamic manual controller to suppress flutter of bridge, Korea Patent Application 1019990014496, IPC E01D19/00

Contracts and Grants

1. Jung, S., & Liu, X. (Aug 2019 – July 2022), Effect of Heterogeneous Terrain on Wind Loads on Buildings, National Science Foundation, \$451,993
2. Jung, S., & Seyedi, M. R. (Dec 2019 – Dec 2020), Crashworthiness and Safety Assessment of Cutaway Buses, Florida Department of Transportation, \$260,000
3. Jung, S., & Kampmann, R. (Jan 2019 – Dec 2021), Evaluation of Glass Fiber Reinforced Polymers (GFRP) Spirals in Corrosion Resistant Concrete Piles, Florida Department of Transportation, \$350,329
4. Jung, S., & Wekezer, J. (Dec 2016 – Dec 2019), Crashworthiness and Safety Assessment of Cutaway Buses, Florida Department of Transportation, \$775,000
5. Jung, S. (May 2013 – Apr 2018), CAREER: Offshore Wind Turbines Subjected to Hurricanes: Simulation of Wind-Wave-Structure Interaction and Aerodynamic Load Reduction, National Science Foundation, \$400,000
6. Ozguven, E., Jung, S., & Sobanjo, J. (Sep 2016 – Dec 2017), Senior Community Resilience: Assessing the Interdependencies between Critical Transportation Infrastructures and Implications on Aging People's Households, Federal Highway Administration through FSU Transportation Center, \$144,498 (Co-PI with 30% share)
7. Jung, S., & Vanli, O. A. (Jan 2015 – Aug 2016), Promoting Preventive Mitigations of Buildings against Hurricanes through Enhanced Risk-Assessment and Decision-Making, National Oceanic and Atmospheric Administration through Florida Sea Grant, \$200,000
8. Wekezer, J., & Jung, S. (Aug 2011 – Dec 2016), Crashworthiness Evaluation of Paratransit Buses, Florida Department of Transportation, \$1,136,000 (Co-PI with 40% share)
9. Sobanjo, J., Jung, S., & Wekezer, J. (Jan 2015 – Dec 2016), Biomechanics of Older Drivers to Mitigate Injury, Federal Highway Administration through FSU Transportation Center, \$150,003 (Co-PI with 30% share)
10. Jung, S. (Jan 2014 – June 2014), Full Scale Wind Load Testing of Aluminum Screen Enclosures, Florida Building Commission, Subcontract through University of Florida (PI: Masters, F. J.), \$13,691
11. Rambo-Roddenberry, M. D., & Jung, S. (Nov 2011 – Dec 2013), Axle Equivalent Transverse Loading on Segmental Bridge Decks, Florida Department of Transportation, \$99,607 (Co-PI with 40% share)

12. Vanli, O. A., & Jung, S. (Apr 2012 – Mar 2013), Reliability Assessment of Aging Structures Subject to Hurricanes Using Sensor-Based Condition Data, Florida State University Council on Research and Creativity, \$12,000 (Co-PI with 50% share)
13. Jung, S. (May 2009 – Mar 2012), Integrated Analysis of Aerodynamic Effects on Long-Span Cable Bridges, Korea Institute of Construction and Transportation Technology Evaluation and Planning, \$87,867
14. Jung, S., & Rambo-Roddenberry, M. D. (May 2010 – Aug 2011), Evaluation of the Altimeter for Measuring Bridge Deflections, Florida Department of Transportation, \$11,224
15. Jung, S., & Mtenga, P. V. (Feb 2011 – Jun 2011), Assessment of Retrofit Options for Aluminum Screen Enclosures to Assist Mitigation Planning, Florida Division of Emergency Management, \$94,419
16. Jung, S. (Oct 2009 – Dec 2010), Testing of Connection to Improve Hurricane Resistance of Aluminum Structures, Florida Department of Financial Services, Subcontract through Florida State University (PI: Maroney, P.), \$49,580
17. Jung, S. (Jan 2010 – Jun 2010), Mitigation of Damage on Aluminum Structures through Improved Connections, Florida Division of Emergency Management, \$99,858
18. Jung, S. (May 2009 – Aug 2009), Innovative Visualization and Assessment of the Nation's Aging Infrastructure, Florida State University Council on Research and Creativity, \$17,000

Awards

- ASCE Alfred Noble Prize (2019): “given for a technical paper of exceptional merit accepted by the Committee on Publications”
- National Science Foundation CAREER Award (2013): “NSF’s most prestigious awards in support of early-career faculty who have the potential to serve as academic role models in research and education”
- FAMU-FSU College of Engineering Research Excellence Award (2013)
- Caterpillar Innovation Fair Award (2008)

Supervision of Research

Chair of Dissertation and Thesis Research Committee

1. Nasrollah Alinejad, Ph.D. student (expected completion in 2023), *Effect of Heterogeneous Terrain on Wind Loads on Buildings*.

2. Olayiwola Adegbulugbe, Ph.D. student (expected completion in 2022, Co-Advisor: Dr. Kampmann, R.), *Evaluation of Glass Fiber Reinforced Polymers (GFRP) Spirals in Corrosion Resistant Concrete Piles.*
3. MohammadReza Seyedi, Ph.D. candidate (expected completion in 2020), *Structural Performance and Occupant Response in Rollover Accident.*
4. Sean Martin, Ph.D. candidate (expected completion in 2021), *Wind Turbines for Low-Wind Resource Regions.*
5. Grzegorz Dolzyk, Ph.D. candidate (expected completion in 2020), *Energy Absorption of 3D Printed Structures.*
6. Grzegorz Kakareko, Ph.D., 2019, *Multi-Scale Loss Estimation of Buildings Subjected to Hurricanes.*
7. Gholamreza Amirinia, Ph.D., 2017, *Offshore Wind Turbines Subjected to Hurricanes.*
8. Kakit Fung, Ph.D., 2017, *Biomechanics of Older Drivers in Vehicular Crashes.*
9. Atul Patil, Ph.D., 2015, *Response of a Wind Turbine Structure to Strong Ground Motions and High Velocity Winds.*
10. Bejoy P. Alduse, Ph.D., 2014, *Prediction of Wind Induced Damage Using Prior Knowledge and Monitored Data.*
11. Bronislaw Gepner, Ph.D., 2014 (Co-adviser: Dr. Wekezer, J.), *Rollover Procedures for Crashworthiness Assessment of Paratransit Bus Structures.*
12. Reza Alishahi, M.S. Student, in progress, *Fragility Analysis of a 5MW Wind Turbine Tower Subjected to Hurricane Winds.*
13. Ryan McDugle, M.S., 2018 (Co-Advisor: Dr. Ozguven, E.), *The Effects of Residential Structural Integrity on Evacuation Orders Due to Tropical Storm Events.*
14. Anwer Al-Kaimakchi, M.S., 2017, *Optimization of Alternative Wind Turbine Towers in Low Wind Resource Regions.*
15. Ran Xu, M.S., 2016, *The Effect of Aging Altered Driving Posture in Low Speed Frontal Impact.*
16. Paola Vasquez, M.S., 2016, *Wind Energy Potential on the Northeastern Island Territories in Venezuela Considering Uncertainties.*
17. Michal Gleba, M.S., 2015 (Co-Advisor: Dr. Wekezer, J.), *Effect of Friction on Vehicle Crashworthiness during Rollover.*
18. Larissa Ferreira, M.S., 2015, *Pressure Drag Reduction on Patterned Cylindrical Models Inspired by Biomimicry.*
19. Seyamend Armaghani, M.S., 2014, *Behavior of Plywood and Fiberglass Steel Composite Tube Structures Subjected to Impact Loading.*
20. Joshua Turley, M.S., 2013, *Side Impact of a Paratransit Bus.*

21. Gustavo Munoz, M.S., 2012, *Mitigation of Vortex-Induced Vibrations in Cables Using Macro-Fiber Composites.*
22. Michael Schellhammer, M.S., 2011, *Mitigation Techniques for Aluminum Pool Enclosure Connections in High Wind Speeds.*
23. Jeyre Lewis, M.S., 2011, *Investigations on Various Connections and Mitigation Options to Improve the Structural Behavior of Screen Enclosures.*
24. Atul Patil, M.S., 2010, *Mitigation of Vortex Induced Response in Long Span Bridges.*

Member of Dissertation and Thesis Research Committee

1. Tadeu Fagundes, Ph.D., in progress
2. Andrew Baldwin, Ph.D., in progress
3. Lee Mears, Ph.D., in progress
4. Anwer Al-Kaimakchi, Ph.D., in progress
5. Md Abu S. Shohag, Ph.D., 2019
6. Jonathan McNally, Ph.D., 2018
7. Aniket Ingrole, Ph.D., 2018
8. Marcella Carnes, Ph.D., 2017
9. Spandan Mishra, Ph.D., 2016
10. Ashley Solek, M.S., 2018
11. Ibukun Titiloye, M.S., 2018
12. Olayiwola Adegbulugbe, M.S., 2018
13. Ibukun Titiloye, M.S., 2018
14. Kojo Ackah, M.S., 2016
15. Kunal Joshi, M.S., 2013
16. Kakit Fung, M.S., 2013
17. Desi Maldonado, M.S., 2013
18. Michael Lewis, M.S., 2012
19. Marcella Carnes, M.S., 2011
20. Jonathan Chipperfield, M.S., 2010
21. Christopher Rawl, M.S., 2010
22. Eduardo Taft, M.S., 2010
23. Sujatha Kalyanam, M.S., 2009

24. Meghana Chythanya, M.S., 2008

Visiting Scholars

1. Seung-Yong Ok, Hankyong National University, 2019
2. Se-Jin Jeon, Ajou University, 2019
3. Do Young Moon, Kyungsung University, 2016 – 2017
4. Ho-Kyung Kim, Seoul National University, 2015
5. Hyun Woo Park, Dong-A University, 2015
6. Jae-Yo Kim, Kwangwoon University, 2014 – 2015
7. Juhyoung Kim, Korea Institute of Construction Technology, 2013 – 2014
8. Gyehee Lee, Mokpo National Maritime University, 2012 – 2013
9. Sungryul Kim, Dong-A University, 2012 – 2013
10. Inho Yeo, Korea Railroad Research Institute, 2011 – 2012
11. Dongmei Tan, Wuhan University of Technology, 2009 – 2010

Teaching

Courses Taught and Instructor Assessment (Excellent = 5.0)

- CES5209 Structural Dynamics (Fall 2019) 4.6
- EGN3331 Strength of Materials (Spring 2019) 4.6
- CES6116 Finite Elements in Structures (Fall 2018) 4.2
- CES5585 Wind Engineering (Fall 2017) 5.0
- CES5209 Structural Dynamics (Spring 2017) 5.0
- EGN3331 Strength of Materials (Spring 2017) 4.9
- CES6116 Finite Elements in Structures (Fall 2016) 4.7
- CES5585 Wind Engineering (Spring 2016) 5.0
- EGN3331 Strength of Materials (Spring 2016) 4.5
- CES5209 Structural Dynamics (Fall 2015) 4.8
- CGN5930 Wind Energy (Spring 2015) 5.0
- CES6116 Finite Elements in Structures (Fall 2014) 5.0

- CES5585 Wind Engineering (Spring 2014) 5.0
- EGN3331 Strength of Materials (Spring 2014) 4.9
- CES5209 Structural Dynamics (Fall 2013) 5.0
- CES6116 Finite Elements in Structures (Spring 2013) 5.0
- EGM3512 Engineering Mechanics (Spring 2013) 4.9
- CES5585 Wind Engineering (Fall 2012) 4.8
- EGN3331 Strength of Materials (Fall 2012) 4.5
- CES5209 Structural Dynamics (Spring 2012) 5.0
- CES6116 Finite Elements in Structures (Fall 2011) 5.0
- EGN3331 Strength of Materials (Fall 2011) 4.6
- CGN5930 Wind Engineering (Spring 2011) 4.9
- EGM3512 Engineering Mechanics (Spring 2011) 4.7
- EGM3512 Engineering Mechanics (Fall 2010) 4.5
- EGN3331 Strength of Materials (Fall 2010) 4.7
- CES5209 Structural Dynamics (Spring 2010) 4.9
- EGM3512 Engineering Mechanics (Spring 2010) 4.5
- EGM3512 Engineering Mechanics (Fall 2009) 4.7
- CGN5930 Wind Engineering (Spring 2009) 4.9
- EGM3512 Engineering Mechanics (Spring 2009) 4.5
- EGM3512 Engineering Mechanics (Fall 2008) 4.1

New Course Development

- CGN5930 Wind Energy: project-based multidisciplinary course
- CES5585 Wind Engineering

Directed Individual Study Courses Taught

- CGN5905 Advanced Behavior of Concrete under Dynamic Load (Fall 2019)
- CGN5905 Applications of the Finite Element Method (Summer 2019)
- CGN5905 Contemporary Issues in Vehicle Safety (Fall 2016)

- CGN5905 Applications of Artificial Neural Networks in Civil Engineering (Summer 2016)
- CGN5905 Atmospheric Boundary Layer Flows (Summer 2016)
- CGN5905 Contemporary Issues in Vehicle Safety (Fall 2015)
- CGN5905 Fragility and Vulnerability Analysis in Wind Engineering (Summer 2015)
- CGN5905 Nonlinear Transient Finite Element Analysis (Fall 2014)
- EGN4906 Taller Wind Turbine for Low Wind Speed Regions (Fall 2014)
- CGN5905 Atmospheric Boundary Layer Flows (Summer 2014)
- CGN5905 Theory of Bridge and Tower Aerodynamics (Spring 2014)
- EGN4906 Applications of Infrared Thermography in Civil Engineering (Spring 2012)
- CGN5905 Wind Energy (Spring 2011)
- CGN5905 Theory of Bridge Aerodynamics (Summer 2010)
- EGN4906 Applications of Artificial Neural Networks in Civil Engineering (Summer 2009)

Professional Activities to Enhance Teaching

- Multidisciplinary Senior Design Project (2012 – 2015): Developed new senior design projects, which involved senior students from civil, mechanical, and electrical engineering.
- KidWind Wind Senators Workshop (2013): Attended a five-day workshop on K-12 education and outreach, focusing on renewable energy education.

Service

Editor for Peer-Reviewed Journals

- Associate Editor, Journal of Offshore Mechanics and Arctic Engineering (2017 – present)
- Associate Editor, KSCE Journal of Civil Engineering (2014 – present)

Reviewer for Peer-Reviewed Journals

- Engineering Structures (2011, 2014, 2017-18)
- Wind and Structures (2013-14, 2017)
- Journal of Engineering Mechanics (2011-13, 2016)
- Journal of Building Engineering (2015, 2017, 2018-19)
- Journal of Bridge Engineering (2009, 2015, 2018)

- Journal of Structural Engineering (2012-13)
- Journal of Wind Engineering and Industrial Aerodynamics (2018)
- Wind Energy (2017)
- Journal of Earthquake Engineering (2013)
- Journal of Architectural Engineering (2019)
- Journal of Aerospace Engineering (2018)
- Journal of Civil Structural Health Monitoring (2019)
- International Journal of Steel Structures (2018)
- Infrared Physics & Technology (2018)
- Ocean Engineering (2017)
- Applied Ocean Research (2018-19)
- Structural and Multidisciplinary Optimization (2014)
- Engineering with Computers (2011)
- International Journal of Concrete Structures and Materials (2014)
- Materials (2014)
- KSCE Journal of Civil Engineering (2010, 2014)
- Advances in Engineering Software (2009)
- Computational Materials Science (2008)

Reviewer or Panelist for Grant Applications

- National Science Foundation: as a panelist (2013, 2014, 2015: twice, 2017, 2018)
- National Science Foundation: as an ad hoc reviewer (2014, 2017, 2019)
- An Anonymous State Funding Agency (2013)
- National Oceanic and Atmospheric Administration (2010, 2011)

Committee Activities in Professional Organizations

- Non-voting member, ASCE 7-22 Subcommittee on Wind Loads (2017 – present)
- Member, Experimental Analysis and Instrumentation Subcommittee, Engineering Mechanics Institute (2015 – present)

Membership in Professional Organizations (Current and Past)

- Member, American Association for Wind Engineering
- Member, American Society of Civil Engineers
- Member, Engineering Mechanics Institute (EMI)
- Member, EMI Experimental Analysis and Instrumentation Committee

Conference Organization, Session Chair or Moderator

- Scientific Committee Member, 9th International Colloquium on Bluff Body Aerodynamics and Applications (2020)
- Scientific Committee Member, 8th International Colloquium on Bluff Body Aerodynamics and Applications (2016)
- Scientific Committee Member, 13th Americas Conference on Wind Engineering (2017)
- Chair, Analytical and experimental investigation of the resiliency of the critical infrastructures under multiple hazards, Engineering Mechanics Institute Conference (2017)
- Co-Chair, Offshore renewable energy – Wind energy analysis & operation – Fatigue, Conference on Ocean Offshore & Arctic Engineering (2017)
- Moderator, Codes and Standards III, Americas Conference on Wind Engineering (2017)

Professional Consulting

- Korea Institute of Construction Technology (2014 – 2015)

College and Department Committee

- Chair, Department Graduate Committee (2018 – present)
- Member, Search Committee: CEE Chair (2018 – 2019)
- Member, Department Graduate Committee (2009 – 2017)
- Member, Department Laboratory Committee (2017 – present)
- Member, Search Committee: Teaching Faculty (2014 – 2015)
- Member, Search Committee: Structural Engineering Faculty (2013 – 2014)
- Chair, Department Laboratory Committee (2013 – 2016)
- Member, College Information Technology Committee (2012)

Outreach Activities

- Wind Energy Workshop (2014, 2015, 2016): Hosted K-12 teachers on wind energy education in K-12. This half-a-day workshop is based on the material that the PI learned from a 5-day workshop offered by KidWind.
- Florida State University Young Scholars Program (2012, 2013, 2014): Hosted high school students for laboratory research. The students worked in the PI's lab for about ten days for the five-week period to complete research projects.