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Sam Amoroso, Ph.D., P.E., S.E.

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Professional Profile

Dr. Amoroso is a licensed civil and structural engineer specializing in analysis and design, risk assessment, and failure investigations of buildings and structures. His infrastructure experience includes designing and load rating bridges, performing independent technical reviews of new bridge designs, bridge failure analysis, roadway geometric design, retaining wall design, and evaluation of surface drainage. He has also investigated the design and performance of municipal and industrial wastewater treatment structures.

Dr. Amoroso has designed and evaluated commercial, institutional, and industrial structures. He has assessed damage to these structure types due to wind, storm surge and waves, fire, ground settlement, water intrusion, and material degradation such as wood decay and steel corrosion. Dr. Amoroso has investigated damage caused by hurricanes affecting the U.S. Gulf Coast, including Ivan (2004), Katrina (2005), Rita (2005), Gustav (2008), Isaac (2012), Michael (2018), Laura (2020), Delta (2020), and Ida (2021).

Dr. Amoroso's doctoral research on wind loads for petrochemical structures contributed to the revision and update to ASCE's guide publication, Wind Loads for Petrochemical and Other Industrial Structures. Experience evaluating structural damage due to wind, storm surge and waves informed Chapter 5 of ASCE's Engineering Investigations of Hurricane Damage: Wind versus Water, which he co-authored.

As an Adjunct Instructor in the Civil and Environmental Engineering Department at Louisiana State University, Dr. Amoroso has taught "Mechanics of Materials" and "Introduction to Civil Engineering."

Academic Credentials & Professional Honors

Ph.D., Civil Engineering, Louisiana State University, 2007

B.S., Civil Engineering, Louisiana State University, 1999

Outstanding Young Civil Engineer, Louisiana Section of ASCE, 2012

Licenses and Certifications

Professional Engineer, Colorado, #0062614

Professional Engineer Civil, Florida, #67680

Professional Engineer Civil and Structural, Louisiana, #PE.0031540

Professional Engineer, Mississippi, #18371

Professional Engineer, Missouri, #2020000272

Professional Engineer, New York, #110449

Professional Engineer Civil and Structural, Oklahoma, #29136

Professional Engineer, South Carolina, #37428

Professional Engineer Civil, Texas, #105474

Professional Engineer, Virginia, #402054652

Academic Appointments

Adjunct Instructor, Louisiana State University, 2008-Present

Louisiana Board of Regents Doctoral Fellowship, Louisiana State University, 2003-2006

Prior Experience

Forte and Tablada (formerly Engensus), 2006 – 2018

Engineer II, HNTB, 1999-2003

Professional Affiliations

Co-Chair, ASCE/PIP Task Committee for On-Shore Modularization

Co-Chair, ASCE Task Committee on Wind Induced Forces, which is responsible for the ASCE guide publication, *Wind Loads for Petrochemical Facilities*

ASCE Task Committee that developed the guide publication, *Engineering Investigations of Hurricane Damage* (2012-2014)

ASCE Baton Rouge Branch: Program Director (2012-2013), Education Director (2008-2012), LSU Practitioner Advisor (2007-2011)

Publications

Amoroso, A, Jampole, E, and Morgan, T. "Tornado effects on buildings: are target performance objectives consistent with recent damage observations?" Structure Magazine. July 2022.

Jampole, E., Amoroso, S., Morgan, T. and McDonald, B., “Themes in design/build disputes, from a technical expert witness perspective,” Construction Law International, International Bar Association, Vol. 17, No. 1, March 2022.

Amoroso, S. D. and Gurley K. R. “Chapter 5: Response of Structures to Wind, Storm Surge, Flood, and Waves,” Engineering Investigations of Hurricane Damage: Wind versus Water, edited by Peraza, Coulbourne and Griffith, American Society of Civil Engineers, Reston VA, 2014.

Wong, S., Sepaha, A., Swamy, N., Amoroso, S., and Naqvi, D., "Wind loads on non-building structures using ASCE 7-10," proceedings of the ASCE/SEI 2012 Structures Congress, Chicago, March 2012.

Amoroso, S. and Levitan, M., "Wind loads for high-solidity open-frame structures," Wind and Structures, an International Journal, V. 14, No. 1, 2011.

Amoroso, S., Hebert, K., Levitan, M., "Wind tunnel tests for mean wind loads on partially clad structures," Journal of Wind Engineering and Industrial Aerodynamics, V. 98, No. 12, pp. 689-700, December 2010.

Amoroso, S., Levitan, M., "Wind Load Analysis Uncertainty for Petrochemical Structures," 11th Americas Conference on Wind Engineering, San Juan, Puerto Rico, June 2009.

Amoroso, S., "Benefit Cost Analysis for Wind Hazard Mitigation," Louisiana Civil Engineer, Journal of the Louisiana Section of the American Society of Civil Engineers, v. 17, no. 3, May 2009.

Amoroso, S., and Levitan, M., "Recent Research for Wind Loads on Petrochemical Structures," Proceedings of the ASCE/SEI 2009 Structures Congress, Austin, TX, April 2009.

Amoroso, S. and Fennell, J., "A Rational Benefit/Cost Approach to Evaluating Structural Mitigation for Wind Damage: Learning ‘the Hard Way' and Looking Forward," Proceedings of the ASCE/SEI 2008 Structures Congress, Vancouver, B.C., April 2008.

Amoroso, S. and Coco, R., "Effective Forensic Engineering Investigations of Hurricane ‘Wind vs. Water' Disputes: Techniques and Tools," Proceedings of the ASCE/SEI 2008 Structures Congress, Vancouver, B.C., April 2008.

Amoroso, S. and Levitan, M., "Recent research into wind loads on industrial structures," 12th International Conference on Wind Engineering, Cairns, Australia, July 2007.

Amoroso, S., Hebert, K., Levitan, M., "Wind tunnel tests on partially clad buildings and structures," 4th European and African Conference on Wind Engineering, Prague, July 2005.

Amoroso, S., Levitan, M., "Influence of Framework and Equipment Interaction on the Wind Loads for Open-Frame Structures," 10th Americas Conference on Wind Engineering, Baton Rouge, May 2005.

Levitan, M., Qiang, L., Amoroso, S., "Wind tunnel Tests on Open-Frame Industrial/Petrochemical Structures," Proceedings of the Fifth International Colloquium on Bluff Body Aerodynamics and Applications, Ottawa, July 2004.

Presentations

"Update on ASCE Guidelines, 'Wind Loads for Petrochemical and other Industrial Structures'," ASCE/SEI Structures Congress, Ft. Worth, TX, April 20, 2018.

Amoroso, S., "Seismic Design Basics for Buildings," Louisiana ASCE Spring Conference, Shreveport, LA, April 2013.

Amoroso, S., "Recent Updates to the Seismic Design Requirements for Buildings in Louisiana," Louisiana Civil Engineering Conference and Show, Kenner, LA, September 2012.

Amoroso, S. and VanDreumel, B., "The Development of Insurance Premium Discounts for Wind Hazard Mitigation," Louisiana Civil Engineering Conference and Show, Kenner, LA, September 2009.

Amoroso, S. and Coco, R., "Wind Hazard Mitigation," Southern Farm Bureau Actuarial Conference, Baton Rouge, LA, July 2009.

Amoroso, S., "Benefit Cost Analysis for Wind Hazard Mitigation," Louisiana Civil Engineering Conference and Show, Kenner, LA, September 2008.

Amoroso, S., "Determining Building Wind Loads Using ASCE/SEI 7-05: An Overview," National Hurricane Conference, Orlando, FL, March 2008.

Amoroso, S., "Recent research on wind loads for petrochemical structures," Louisiana Civil Engineering Conference and Show, Kenner, LA, September 2006.

Amoroso, S., "Wind loads on open-frame petrochemical structures," Louisiana Civil Engineering Conference and Show, Kenner, LA, September 2004.

Advisory Appointments

Advised a technical committee of the LA State Uniform Construction Code Committee regarding proposed state exceptions or modifications to the seismic provisions of the International Building Code (2011-2012)

Peer Reviews

Journal of Building Engineering, Elsevier B.V.