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Engineering & Scientific Consulting

Morgan Griffith, P.E.

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Professional Profile

Morgan Griffith has over 20 years of experience investigating damage to buildings and other structures. He has led investigations of damage caused by earthquakes, hurricanes, tornados, floods, fires, hailstorms, snow/ice accumulation, ground movement, explosions, impacts, design and construction defects, structural overload, wood decay and various material degradation mechanisms. He has published and taught courses on topics related to earthquake and hurricane damage through organizations such as the Federal Emergency Management Agency (FEMA), the Applied Technology Council (ATC), and the American Society of Civil Engineers (ASCE). Morgan is currently an adjunct lecturer at Stanford University where he teaches a graduate course on structural performance and failures.

Morgan also assesses the risk of damage to buildings and structures for organizations interested in quantifying and mitigating risk for critical infrastructure. He has developed models to quantify risk associated with extreme wind impacts on overhead electric power lines, earthquake-caused rupture of municipal water reservoirs, hurricane impacts on petrochemical facilities, and flood-induced dam/levee breaches. Morgan helped develop a risk model used by a California electric utility for decisions related to Public Safety Power Shutoff (PSPS). He has published and spoken at conferences related to quantitative risk assessment of overhead electric power lines though the Western Energy Institute (WEI), DISTRIBUTECH, and Transmission & Distribution World.

Morgan's professional interests also include repair of damage to buildings and structures, and recovery of communities following natural disasters. He has expertise in the application of building codes to the repair of damaged structures, and he was the Project Technical Director for a research effort related to the assessment and repair of earthquake damage to wood-framed buildings (ATC-143). Morgan was part of a team of engineers with the Earthquake Engineering Research Institute (EERI) that documented damage to buildings in Turkey following the devastating earthquake sequence of 2023.

Prior to joining Exponent, Morgan worked as a design engineer for a San Francisco Bay area firm on a variety of civil and structural engineering projects. He also worked in the Netherlands, Denmark and Kazakhstan for an offshore geotechnical engineering firm.

Academic Credentials & Professional Honors

M.S., Civil and Environmental Engineering, University of California, Berkeley, 2004

B.S., Civil and Environmental Engineering, California Polytechnic State University, SLO, 1999

Licenses and Certifications

Professional Engineer, Alaska, #119537

Professional Engineer, Arizona, #65003

Professional Engineer Civil, California, #65757

Professional Engineer, Minnesota, #64134

Professional Engineer, North Carolina, #047537

Professional Engineer, Ohio, #PE.79528

Professional Engineer Structural, Oklahoma, #29309

Professional Engineer Civil, Texas, #128483

Professional Engineer, Washington, #51485

Professional Affiliations

Structural Engineers Association of Northern California (member)

American Society of Civil Engineers (member)

Earthquake Engineering Research Institute (member)

Publications

McDonald B, Griffith M, Bhattacharjee G, Jampole E. The Sustainable Power Grid: Challenges, Applications, and Case Studies (Chapter 3: A quantitative risk-based framework for asset health assessment of overhead lines). Elsevier, 2025.

Sezen H, Gencturk B, Garai R, Gudhka P, Griffith M, Mieler M. February 6, 2023 Türkiye Earthquakes: Report on Geoscience and Engineering Impacts (Section 5, Performance of Buildings), joint report by GEER and EERI, May 6, 2023.

Griffith M, El Didi L. A Changing Climate for Utilities, T&D World online article, June 23, 2021.

Moresco J, Griffith M, Bonowitz D, Cobeen K, Cocke D, Dyce D, Maffei J, Osteraas J. Earthquake Damage Assessment and Repair Guidelines for U.S. Residential Wood-Frame Buildings, 17th World Conference on Earthquake Engineering, Sendai, Japan, September 13-18, 2020.

Griffith M (Project Technical Director and chapter author). Earthquake Damage Assessment and Repair Guidelines for Residential Wood-Frame Buildings, Volumes 1 and 2, CEA-EDA-01 and -02, 2020.

Bishop CD, Griffith M, McDonald BM, Wolf JM. Stability of Tapered Wood Utility Poles under Extreme Loading. Proceedings of the Annual Stability Conference, Structural Stability Research Council, St. Louis, MO, April 2-5, 2019.

Hallet SK, Uriz P, Griffith M. Designing Destruction. Structure Magazine, April 2018.

Bishop CD, Trono W, Griffith M. Stability Considerations for Concrete Forming Support Systems. Proceedings, Annual Stability Conference, Structural Stability Research Council, Baltimore, MD, April 10-13, 2018.

Hallet SK, Uriz P, Griffith M. Designing Destruction: An Investigation into Controlled Demolition of Complex Structures through Disaster Response Case Studies, Proceedings, SEAONC Convention, Maui, HI, October 12-15, 2016.

Bishop CD, Griffith M, McDonald BM. Instability of Solar Power Tower Structures During Construction. Proceedings of the Annual Stability Conference, Structural Stability Research Council, Orlando, FL, April 12-15, 2016.

Peraza D, Coulbourne W, Griffith M (Editor and chapter author). Engineering Investigations of Hurricane Damage. American Society of Civil Engineers, 2014.

Wolf J, Griffith M. Wind-Driven Rain as a Design Parameter. ASCE Structures Congress, Vancouver, B.C., 2008.

Moncarz P, Griffith M, Noakowski P. Collapse of a Reinforced Concrete Dome in a Wastewater Treatment Plant Digester Tank. Journal of Performance of Constructed Facilities, American Society of Civil Engineers 2007; 21(1), January/February.

Gupta A, McDonald BM, Griffith M, Osteraas J. Displacement Coefficients for Conventional Residential Wood-Frame Structures. 100th Anniversary Earthquake Conference Commemorating the 1906 San Francisco Earthquake, San Francisco, CA, April 18-22, 2006.

Fiegel G, Elia V, Griffith M. Geotechnical Engineering for Elementary School Students. Proceedings, Educational Issues in Geotechnical Engineering by the Geo-Institute of the American Society of Civil Engineers, Denver, CO, August 5-8, 2000.

Selected Invited Presentations

Tu W, Griffith M. Trust but verify: using advanced tools to ground truth analytical risk models. Presented via a Western Energy Institute Operations Conference technical session, Oakland, CA, April 2024.

Griffith M. Homebuilders' guide to earthquake-resistant design and construction (FEMA-232). Presented via a National Earthquake Technical Assistance Program webinar, 2020, 2021, 2022, 2023 and 2024.

Griffith M. Postearthquake safety evaluation of buildings (ATC-20). Presented via a National Earthquake Technical Assistance Program Webinar, 2020, 2021, 2022, and 2023.

Griffith M. Rapid visual screening of buildings for potential seismic hazards (FEMA P-154). Presented via a National Earthquake Technical Assistance Program webinar, 2020, 2021, 2022, and 2023.

Griffith M, Sakamoto M, Davis G. Risk Metrics in Asset Management and Operability Assessment Decisions. Presented via a Western Energy Institute Operations Conference technical session, April 2021.

Griffith M. Wildland fire risk: a quantitative risk-based framework for asset health assessment of overhead lines. Presented via DISTRIBUTECH+ and T&D World webinars, November and December 2020.

El Didi L, Griffith M, James B, Marquardt A, Andino B, Ly M. High wind warning: a risk-based approach to electric infrastructure safety. Presented via a Western Energy Institute webinar, July 2020.

Peraza D, Griffith M. Engineering investigations of hurricane damage: wind versus water. Presented via an American Society of Civil Engineers webinar, 2016, 2017, and 2019.

Bennett P, Griffith M. Construction defects, failures, and repairs. Presented to the Colorado Chapter of the International Code Council, Denver, CO, 2014, 2015, 2016, 2017, 2018, 2019 and 2022.

Griffith M. Engineering issues for post-earthquake damage assessment. Presented to various insurance companies and related organizations, AL, CA, CO, FL, GA, MA, NV, OR, TN, TX, 2005-present.

Griffith M. Avila Beach petroleum cleanup project. Presented to Fugro Engineers, Leidschendam, The Netherlands, February 2000.