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Engineering & Scientific Consulting

Cliff Bishop, Ph.D., S.E., P.E.

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Professional Profile

As a licensed professional and structural engineer, Dr. Cliff D. Bishop specializes in the holistic evaluation of building and bridge structures. While at Exponent, he has led investigations of concrete, steel, wood, and masonry structures and their interior finishes and building envelope components that were damaged as a result of design/construction defects, construction procedures, and natural hazards, such as wind, floods, hurricanes, and earthquakes.

These investigations typically include on-site testing and documentation, analysis of structural and non-structural component response, interpreting and applying building codes and standards, and identification of the most appropriate repair. Dr. Bishop often employs sophisticated engineering analysis and state-of-the-art research in support of these investigations. His sound engineering advice provides the basis necessary for building owners, insurers, and other stakeholders to make informed decisions.

Dr. Bishop received his Bachelor of Science, Master of Science, and Doctor of Philosophy degrees in Civil Engineering (with an emphasis in Structural Engineering) from the Georgia Institute of Technology (Georgia Tech). Dr. Bishop's academic background includes the incorporation of probability and risk into the design process for steel and concrete structures. This includes experience in structural reliability, dynamics and adaptive smart-structures, and computer simulations of structural behavior using robust nonlinear finite element analysis. Dr. Bishop's research at Georgia Tech focused on bracing for stability of metal building systems where he developed novel software to assess the stability of highly nonlinear steel structures.

Dr. Bishop’s investigations of construction defects, structural and non-structural damage, envelope failures, interior finishes concerns, and collapses often take him to the site to capture the critical, sometimes ephemeral, evidence needed to determine the cause of a failure as well as the nature and extent of damage that may require repair. A sample of past investigations include: collapse of a parking deck during concrete placement, stability assessment of steel solar power tower structures, construction defect assessment for concrete and steel structural systems, damage assessment of wood-framed buildings associated with adjacent construction, property condition assessment for changes in tenancy, damage assessment of a hotel due to an earthquake, and structural/building envelope assessment of coastal facilities affected by hurricanes.

Dr. Bishop has investigated building envelope failures including those related to windows/doors, cladding systems, roofing systems, moisture intrusion and those related to building physics such as vapor drive and addressed how these types of failures may have damaged internal building components.

Dr. Bishop has utilized his experience in interpreting and applying codes and standards on several personal injury cases that occurred in and around buildings and commercial spaces including slip, trip, and fall incidents and pedestrian-vehicle accidents.

Prior to joining Exponent, Dr. Bishop worked for a structural design firm in Atlanta, Georgia, where he designed buildings constructed using structural steel, wood framing, conventionally reinforced concrete and post-tensioned concrete. Dr. Bishop consulted on several projects to develop systems and components to protect buildings from blast effects and reduce the risk of progressive collapse.

Dr. Bishop is an active member of the Structural Stability Research Council's (SSRC) where he serves on the Executive Committee and task committees TG02 - Stability of Members and TG06 - Extreme Loads. He is also a member of the American Society of Civil Engineer's (ASCE/SEI) committee on Structural Members.

Academic Credentials & Professional Honors

Ph.D., Civil Engineering, Georgia Institute of Technology, 2013

M.S., Civil Engineering, Georgia Institute of Technology, 2008

B.S., Civil Engineering, Georgia Institute of Technology, 2007

Licenses and Certifications

Professional Engineer, Alabama, #PE38586

Professional Engineer Civil, California, #86843

Professional Engineer, Colorado, #PE.0065618

Professional Engineer, Florida, #83097

Professional Engineer, Georgia, #PE040101

Professional Engineer Structural, Georgia, #SE000979

Professional Engineer Structural, Hawaii, #PE-21199

Professional Engineer, Idaho, #P-22501

Professional Engineer Structural, Illinois, #081007711

Professional Engineer, Mississippi, #31688

Professional Engineer, Nevada, #028554

Professional Engineer Structural, Nevada, #028554

Professional Engineer, New Jersey, #24GE05711200

Professional Engineer, North Carolina, #045757

Professional Engineer, North Dakota, #PE-29003

Professional Engineer, South Carolina, #33859

Professional Engineer, Tennessee, #129011

Professional Engineer Structural, Texas, #136162

Academic Appointments

Lecturer, Georgia Institute of Technology, 2019-Present, Various Semesters

- Reinforced Concrete Members (Graduate)
- Timber/Masonry Design (Undergraduate)

Lecturer, San Francisco State University, 2014-2016, Various Semesters

- Steel Structures (Undergraduate)

Graduate Research Assistant, Georgia Institute of Technology, 2009-2012

Teaching Assistant, Georgia Institute of Technology, Advanced Steel Design, Advanced Concrete Design, Prestressed Concrete, Timber/Masonry, various semesters

Prior Experience

Consulting Engineer, Pruitt Eberly Stone, 2011-2012

Project Engineer, Pruitt Eberly Stone, 2008-2009

Intern, Pruitt Eberly Stone, 2006-2008

Professional Affiliations

American Institute of Steel Construction (Professional Member)

American Society of Civil Engineers (Member)

Structural Engineering Institute of ASCE (Member)

Construction Institute of ASCE (Member)

Structural Stability Research Council (Member-at-Large, Executive Committee Member)

Publications

Moncarz PD, Bishop CD. Anatomy of Failures: Stability Requirements in All Stages of Operations. 29th Conference on Structural Failures, Szczecin-Miedzyzdroje, Poland, May, 2019.

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

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.

Swensen S, Bishop CD, Moncarz PD. Risk-based analysis for life-safety decisions. 28th Conference on Structural Failures, Szczecin-Miedzyzdroje, Poland, May 22-26, 2017.

Bishop CD, Uriz P. The effects of accurate boundary condition modeling on column stability. Proceedings, Annual Stability Conference, Structural Stability Research Council, San Antonio, TX, March 21-24, 2017.

Bishop CD, Griffith M, McDonald BM. Instability of solar power tower structures during construction. Proceedings, Annual Stability Conference, Structural Stability Research Council, Orlando, FL, April 12-15, 2016.

Bishop CD, Uriz P, McDonald BM. Stability of column rebar cages for buildings under construction. Proceedings, Annual Stability Conference, Structural Stability Research Council, Nashville, TN, March 24-27, 2015.

Togay O, Jeong, WY, Bishop CD, White DW. Toward a More Comprehensive Approach for Design Using Buckling Analysis. Proceedings of the Annual Stability Conference, Structural Stability Research Council, Nashville, TN, March 24-27, 2015.

Bishop CD, Uriz P. Column reinforcing cage stability and construction safety. ASCE Forensic Engineering 7th Congress - Performance of the Built Environment, Miami, FL, November 15-18, 2015.

Moncarz PD, Bishop CD. The San Francisco-Oakland Bay Bridge: Innovation or blunder? 27th Conference on Structural Failures, Miedzyzdroje, Poland, May 20-23, 2015.

Bishop C, McInerney E. Disproportionate collapse design considerations — A comprehensive approach. Structural Engineering Institute of American Society of Civil Engineers, Structures Congress 2014, Boston, MA, pp. 2221-2232, April 3-5, 2014.

Bishop CD, White DW. Practical design of complex stability bracing configurations. Proceedings, Annual Stability Conference, Structural Stability Research Council, St. Louis, MO, April 16-20, 2013.

Bishop CD, White DW, Sharma A, and Kim YD. Flange bracing requirements for metal building systems. Proceedings, Annual Stability Conference, Structural Stability Research Council, Pittsburgh, PA, May 10-14 2011.

Presentations

Powell L, Bishop CD, Zion D, Ambler H, Cahalan S. Extrapolation Evidence: Presenting and Challenging It. Presentation to the Construction Law Section of the Atlanta Bar Association, Atlanta, GA, May 2021.

Bankoff J, Edes B, Bishop C, Zilber Y. Infrastructure: how radical changes in water, energy, transportation and communications systems impact your organization. Presentation at the 3rd Annual World Trade Day, World Trade Center, Atlanta, GA, May 2019.

Ziemian R, Clayton P, Hooper JD, Bishop CD, Griffis L. The Structural Stability Gameshow. Presentation at the 2019 SSRC Annual Stability Conference, St Louis, MO, April 2019.

Ziemian R, Clayton P, Hooper JD, Bishop CD. The Structural Stability Gameshow. Presentation at the 2018 Structures Congress, Fort Worth, TX, April 2018.

Bishop CD, White DW. Bracing for stability: a forensic analysis case study. Presentation to the Georgia chapter of the Structural Engineering Institute, Atlanta, GA, November 2012.

Bishop CD. The direct analysis method. Presentation to the engineering staff of Pruitt Eberly Stone, Atlanta, GA, June 2012.

Bishop CD. Flange bracing requirements for stability of metal building systems: A Synopsis of Current and Proposed Work. Presentation at the MBMA Researcher Symposium, Houston, TX, February 2011.

Bishop CD. Load distribution in lateral systems. Presentation to the engineering staff of Pruitt Eberly Stone, Atlanta, GA, April 2009.

Bishop CD. Introduction to the Direct Analysis (DM) method. Presentation to the engineering staff of Pruitt Eberly Stone, Atlanta, GA, November 2008.