

2026 Forensics Engineering Conference Presenters

In Order of Appearance



Zachary "Zach" D. Kates, PE, LEED AP
Senior Principal and Texas Forensics Practice Leader
Thornton Tomasetti

BIO

Zachary Kates has a broad background in the analysis, design and performance of complex structures. He leads our forensic engineering efforts in Texas and the surrounding region. Kates has led numerous forensic engineering investigations including damage assessment of existing facilities, cause and origin analysis of building and bridge failures, evaluation of construction defects and building envelope assessments. He has been involved in emergency response for building and bridge collapses including stabilization and deconstruction and has performed remedial design

for failed structures. He also provides litigation support, expert witness, and peer review services. Kates has managed engineering teams in the structural design of commercial and residential, government, aviation, healthcare and cultural projects as well as the renovation of existing and historic structures. His extensive portfolio includes the investigation of the Dulles Jet Center hangar collapse in Virginia, and the design of the award-winning Exploration Tower at Port Canaveral in Florida and Martin Army Community Hospital at Fort Benning, Georgia.

A Tale of Two Cities: Two Retrofit Solutions to Address One Problem

In this presentation, Zachary Kates, P.E., S.E., will present the story of the forensic investigation and repair of multiple aircraft hangar structures over multiple sites. Mr. Kates will review the structural behavior of the buildings before the repairs, discuss why each site received a different repair approach, discuss the components and function of the implemented repairs, and discuss the structural engineer's working relationship with the client.

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Nathaniel “Nate” Smith
Structural Engineering Division Head, New York
Simpson Gumpertz & Heger

BIO

Nathaniel Smith’s expertise includes building damage and collapse investigations, repair and rehabilitation of existing buildings including historic structures, and foundation installation monitoring. Smith has worked with numerous long-term clients on projects related to the effects of construction on adjacent structures including pre-construction mitigation and risk assessment, damage assessment, and design of repairs. His background in geotechnical engineering and understanding of soil and foundation types

helps inform his structural evaluations of existing buildings and investigations of structural damage and collapse. He believes in the value of life-long learning and has given numerous presentations and authored papers on adjacent construction matters.

Preconstruction Surveys – What Practicing Engineers Need to Know

ABSTRACT

Pre-construction condition surveys are an important way to document the conditions of adjacent properties prior to the start of construction or demolition. A pre-construction survey is a tool that can be used to assist with resolving claims of damage if and when they arise. However, the quality of pre-construction surveys and associated reports can vary drastically. This seminar will discuss the need for pre-construction surveys, highlight best practices for conducting surveys and preparing reports, and will discuss the current status of the ASCE’s Committee on Forensic Investigations Guidelines for Pre-Construction Surveys.

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Timothy "Tim" P. Marshall, PE
Forensic Engineer, Meteorologist
Haag

BIO

Timothy P. Marshall, PE, MS, is a Forensic Engineer and a Meteorologist for Haag, a Salas O'Brien Company, in Dallas, Texas. He has been with Haag since 1983, and has inspected tens of thousands of homes and building for damage from hail, wind, and other issues. Marshall is a major contributor to Haag's Research & Testing, where he's help on many roofing and wind studies. He is a frequent and sought-after presenter for Haag's Education divisions, where he teaches 20+ damage assessment courses.

Marshall earned a Bachelor of Science in Geography and Meteorology, from Northern Illinois University in 1978. Additionally, Marshall earned a Master of Science in Atmospheric Science from Texas Tech University in 1980, and a Master of Science in Civil Engineering from Texas Tech University in 1983. While at Texas Tech University, Marshall worked as a teaching assistant and research assistant for the Atmospheric Sciences Department, and as a research assistant for the Institute for Disaster Research. Through Texas Tech University, Marshall became involved with a damage survey following seven tornadoes which hit Grand Island, Nebraska in 1980. This survey helped ignite his passion for meteorology, engineering, and storm chasing.

Marshall is a member of the American Association of Wind Engineering, American Meteorology Society, American Society of Civil Engineers, International Conference of Building Officials, National Weather Association, and the Southern Building Code Congress International. Marshall was one of, if not the first, individual to combine his meteorology background with his engineering expertise. This combination allowed him to provide better analysis of storm events and storm damage evaluation than individuals with only one or the other expertise.

Marshall is a widely published author, writing and contributing to more than 100 articles, technical papers, and damage surveys. His 1999 "Protocol for Assessment of Hail-Damaged Roofing", co-authored with Richard Herzog, is considered an industry standard damage assessment protocol today. Marshall has also issued other papers during his tenure at Haag, including "Building Damage Issues in Hurricanes", "Hail Damage Threshold Sizes for Common Roofing Materials", "Hail Damage to Built-up Roofing", and "Hail Damage to Tile Roofing", among others. He has also authored or contributed to damage assessment surveys to most major hurricanes and tornadoes from the last 30 years. With his combined background in meteorology and civil engineering, Marshall was a key contributor to the development of the Enhanced Fujita (EF) Scale used operationally by the National Weather Service since 2007 to rate tornadoes. He is currently an active participant in the development of a joint ASCE/SEI/AMS standard for wind speed estimation in tornadoes and other wind storms. Marshall participated in Roof Ad Hoc Committee (1985), Severe Thunderstorm Warning Committee (2000); and Severe Local Storms Committee, American Meteorological Society (2006 – 2009). He is an active member of NOAA/NWS Quick Response Team (2003 to present); Enhanced Fujita Scale Committee (2003 to present); Consultant to the Saffir-Simpson Hurricane Scale Committee; and ASCE Wind Speed Estimation on Tornadoes Committee – The EF scale (2015 to present).

Over the past three decades, Marshall has presented hundreds of lectures on storm damage at meteorological and engineering conferences. He has also appeared on dozens of television programs including National Geographic, Discovery Channel, NPR, Univision/NBC, CBS, and Oprah Winfrey. Marshall was also consulted as a subject matter expert on the movie Twister. His most recent talks include "Assessing Wind Damage to Wood-Framed Residences", University of Arkansas; "EF-Scale and Sulphur, OK Tornado", South Dakota School of Mines and Technology; and recorded 41 video segments on Commercial Roofs for online courses through Haag.

My Life as a Forensic Engineer: One Disaster After Another

For the past 45 years, Tim Marshall has made a career in assessing damage from natural and person-made disasters. This presentation will summarize just a few of the more interesting projects he has worked on out of the many thousands during his career.

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Jonathan "Jon" Poole, PE, Ph.D., FACI
Principal
MJ2 Consulting

BIO

Dr. Jonathan Poole received a B.S., M.S., and Ph.D. in Civil Engineering from the University of Texas at Austin. He has over 15 years of experience in civil engineering, construction, and concrete materials. He served as president of SEAoT Austin Chapter, and was co-recipient of the Wason Medal for Materials Research in 2011, and is the current chair of ACI 207 Mass and Thermally Controlled Concrete.

Dr. Poole is a long-time voting member of ACI 207, a long-time voting member of ACI 305 Hot Weather Concrete, a voting member of ACI 301 Specifications for Concrete Construction, and a voting member of the ACI 301 Specifications for Mass Concrete subcommittee. Dr. Poole's graduate research was on mass concrete, with numerous papers authored and co-authored on the subject. In addition, he helped develop the Texas ConcreteWorks modeling software for mass concrete.

Constructability and Forensics Issues With Mass and Thermally Controlled Concrete: How Heat of Hydration Can Surprise You

For many projects, increases to design concrete strength and schedule requirements for accelerated construction create a need for achieving strength at earlier ages. At the same time, many portions of concrete structures have also become larger to meet the demands of more advanced projects. Concrete hydration is exothermic, meaning it generates heat. Bigger elements with more cementitious materials mean more heat. This combination of conditions can create significant structural and durability issues if not addressed ahead of time. While there are many resources to help practically address common mass concrete issues, these can get ignored.

This presentation will discuss mass concrete issues broadly, recent changes to guidance and specifications that could have avoided big problems with mass concrete and temperature, and many of the ways in which temperature and hydration can negatively affect a project.

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Christine Standohar-Alfano, Ph.D., PE, CCM
Principal Engineer and Forensic Meteorologist
ICC Forensics, LLC

Dr. Christine Alfano has been performing forensic evaluations for over ten years starting with her doctoral research when she analyzed damage and researched mitigation techniques for wood-frame construction subjected to tornado loading. Upon graduation, she researched full-scale building performance under wind loads and wildfire/ember exposure in a large-scale wind tunnel. She also worked at Haag Global for seven years and has inspected and assessed damage to hundreds of properties including residential and commercial structures. Alfano remains involved in research and code committees and is an associate member and secretary of the SEI/ASCE/AMS Wind Speed Estimation Standards Committee. This standard is in development as a joint collaboration between engineering and meteorology communities and will provide a consensus document on the estimation of wind speeds in tornadoes and other windstorms by direct measurements (in situ and radar) or by indirect techniques (the

Enhanced Fujita Scale, tree fall, etc.). She has written and published many articles on tornadoes and resultant damage in peer-reviewed literature and she has presented her results at numerous national and international conferences. Additionally, she has participated in several large-scale post-disaster surveys for tornadoes and hurricanes.

Alfano joined ICC Forensics in 2024 and is based in Minneapolis, Minnesota. However, she performs work across the country and is currently a licensed Professional Engineer (PE) in ten states including North Carolina, South Carolina, Florida, Georgia, Virginia, Tennessee, Iowa, Wisconsin, Minnesota, and South Dakota. She also received the Certified Consulting Meteorologist (CCM) designation in 2021, making her the only person in the country who is a PE and CCM. Dr. Alfano's primary areas of consulting are structural evaluations, general damage assessment, and forensic meteorology.

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Michael "Mike" J. Drerup, PE, F.ASCE
Principal Engineer
Drerup Building Performance Engineering, PLLC

BIO

Over the past 30 years, Michael J. Drerup has investigated performance concerns at hundreds of buildings and structures. His work has ranged from single family homes to large building collapses. He has evaluated damage attributable to earthquakes, blast, impact, fire, water intrusion, corrosion, construction defects, and other factors. Mr. Drerup has previously worked for two prominent forensic engineering firms and an international structural design firm. In 2014, he established Drerup Building Performance Engineering, PLLC with his partner Alicia Díaz de León, PE, SE, AIA, and continues to

collaborate with other consultants and laboratories nationwide to investigate a broad range of issues pertaining to structure, enclosure, and construction materials. Drerup recently completed two terms as a voting member of ASCE's Board Committee on Technical Advancement. He is past Chair and a 24-year member of ASCE's Forensic Engineering Division and currently chairs the Division's Education Committee.

Formation and Failure of Construction Materials

ABSTRACT

Scientific understanding of the natural and manufactured origins of building materials can provide essential insights into the performance and pathology of buildings and civil engineering structures. This session will explore several case studies that illustrate effective collaboration between engineers and materials scientists to diagnose and address failures and remediation techniques. Five rationale for a field or laboratory test program will be presented for discussion. Case studies will include wood, concrete, and polymers. A framework will be presented for identifying and vetting key performance criteria to improving design and repair outcomes.

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Ronald "Ron" W. Anthony, FAPT
President and Wood Scientist
Anthony & Associates, Inc.

BIO

Ronald W. Anthony received an M.S. in Wood Science and Technology from Colorado State University. He has focused on evaluating the performance of wood in historic structures and conducting forensic investigations. He has authored over 125 publications; participated in conferences and seminars; and consulted throughout North America, South America, Europe, Asia, Africa, Australia and the South Pacific. He is the 2002 recipient of the James Marston Fitch Foundation Grant for his approach to evaluating wood in historic buildings; he is a Fellow in the Association for Preservation

Technology International (APT), a recipient of APT's Harley J. McKee Award, APT's Arthur J. Femenella Award for Distinguished Mentorship, and APT's Martin E. Weaver Award.

Wood Investigations; It's Not Just About Moisture and Decay

ABSTRACT

Wood has performed remarkably well as a construction material in a variety of structures for millennia. Occasionally, problems occur that require investigation to understand the nature and cause of a real or perceived problem. With wood, not all forensic investigations are the result of catastrophic failure, but, more often than not, are related to performance-based issues. This presentation will identify some considerations when conducting a forensic investigation of wood materials, with a discussion on the role of wood specifications on the investigation.

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Jorge Hernandez, PE, SE
Project Engineer
Pivot Engineers

BIO

Jorge Hernandez embraces the challenges and investigative work that accompany forensic engineering. His previous experience includes design, evaluation, rehabilitation, and seismic vulnerability assessments of new and existing structures and bridges. Since joining Pivot, he has investigated structural failures, assessed deteriorating materials, developed repair and strengthening for existing structures, and provided litigation support.

Hernandez earned his B.S. in Civil Engineering from the Universidad de Costa Rica, and his M.S. in Structural Engineering from The University of Texas at Austin. His graduate research focused on investigating the contribution of steel gravity framing systems to the lateral resistance of structures. He is an active member of the American Concrete Institute (ACI). He participates in several committees -- 563-K External Reinforcement (voting member), 342 Evaluation of Concrete Bridges (associate member), and 369 Seismic Repair and Rehabilitation (associate member).

Repair & Strengthening: Three Parking Garages and a Bridge

Concrete structures come in a variety of shapes and uses, ensuring no two (or three) are the same. Pivot investigated two parking garages and a segmental bridge using a suite of destructive and nondestructive techniques. Once the investigations were complete, Pivot used the information to repair and strengthen the structures. The first parking garage serves a hospital and is comprised of precast concrete elements. The structure exhibited varying levels of structural capacity and corrosion-related distress. The structure received a mix of concrete and structural steel repairs, while maintaining operations, which was critical for the Owner. The second parking garage comprises four separate parking decks, each constructed at different times, designed with different structural systems, and modified over time. All decks experienced varied levels of corrosion-related distress. The structure underwent concrete repairs, followed by CFRP strengthening to account for past modifications and the increased loads. For the segmental bridge, the Owner requested a condition assessment of the partially erected bridge superstructure during construction. The investigation revealed systemic and widespread construction-related issues. To reach this conclusion, Pivot collected more than 2 miles of scans using ground-penetrating radar (GPR). With this information, Pivot designed the remediation measures used to alleviate the identified construction-related issues.

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Kevin Folliard

**Professor & Director – Laboratory for Infrastructure Materials Engineering
Maseeh Department of Civil, Architectural and Environmental Engineering**

BIO

Kevin Folliard is a professor and Austin Industries Endowed Teaching Fellow in the Fariborz Maseeh Department of Civil, Architectural and Environmental Engineering at The University of Texas at Austin, where he has been on the faculty since 1999. Prior to this, Folliard was an assistant professor at the University of Delaware from 1997 to 1999 and a senior research engineer at W.R. Grace & Co. from 1995 to 1997. Folliard received his Ph.D. in civil engineering from the University of California at Berkeley in 1995. His main research interest is in the area of the durability of portland cement

concrete, and he teaches courses related to civil engineering materials, concrete technology and concrete durability.

Folliard is a fellow of the American Concrete Institute (ACI), and he received the ACI Young Member Award for Professional Achievement in 2003 and the ACI Wason Medal for Materials Research in 2010 and 2014. Folliard received the Ervin S. Perry Student Appreciation Award four times (2001, 2002, 2003, 2009) while at the University of Texas at Austin, and he also received the College of Engineering Award for Outstanding Teaching by an Assistant Professor in 2004. In 2013, Folliard was honored with the highest teaching award given by the University of Texas System, the Regents' Outstanding Teaching Award.

Folliard has been the Principal Investigator on over \$15 million in research projects while on the faculty at The University of Texas at Austin, primarily in the area of concrete durability (especially ASR) and, in more recent years, on the use of alternative binders for rapid repair applications. Folliard has authored or co-authored over 150 technical publications in his career, including more than 65 refereed journal papers.

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Jorge Zornberg
Professor
Maseeh Department of Civil, Architectural and Environmental Engineering

BIO

Jorge Zornberg is a professor and Joe J. King Chair in Engineering in the Fariborz Maseeh Department of Civil, Architectural and Environmental Engineering at The University of Texas at Austin. He has over 35 years of experience in research and practice in geotechnical, geosynthetics, transportation and geoenvironmental engineering.

His research has been sponsored by the National Science Foundation, the Federal Highway Administration, the Transportation Research Board, the Environmental Protection Agency, the US Department of Education, the Geosynthetic Institute, geosynthetic manufacturers, as well as the Departments of Transportation of Texas, Colorado, and California. Zornberg has authored over 550 technical publications and was awarded three patents. He is an editorial board member of the journals *Geosynthetics International*, *Geotextiles and Geomembranes*, and *GeoEngineering*. He has also been invited to deliver numerous keynote lectures around the world. In 2019, the International Geosynthetics Society (IGS) recognized his “major contributions to the geosynthetics discipline” by establishing the “Zornberg Lecture,” an honorary inaugural lecture for the Pan-American Conferences on Geosynthetics.

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Chantell J. Cornett
Principal | Managing Partner | VP/CFO
Ward Cornett & Associates

BIO

Chantell J. Cornett received her engineering training in Construction/Civil from Arizona State University where she is a current Ph.D. Candidate in Structures/Strength of Materials. A forensic engineering expert with 20+ years of experience, her practices focuses in construction disputes, job site safety, defect/building envelope claims, and forensic cost analysis. A licensed Arizona KB-2 Contractor, she consults on OSHA/ADA/Code compliance, property condition assessments, and structural investigations. In 2025, Cornett was awarded a National Science Foundation Fellowship

to advance research in concrete in Chile. She serves on the Arizona Board of Technical Registration, presents at conferences, and adjunct teaches. When not consulting, she enjoys advocacy in workplace safety and ethical engineering practices.

Engineering Ethics in Action: Lessons From Structural Failures and Ethical Dilemmas

Abstract information will be available soon.