NAFE Saturday Schedule (January 17, 2026)

Brian Eubanks, PE (NAFE #962S)
Founder and Principal Structural Engineer,
Paragon Structural Engineering

Garrett Ryan, PE (NAFE #1125M)
Associate Principal Structural Engineer, Paragon
Derek Patoskie, PE (NAFE #1312A)
Senior Staff Structural Engineer, Paragon

Time: 8 to 9 AM

Title: To Prove Or Not to Prove: Different Levels of Forensic Investigation

Abstract: When a forensic engineer provides testimony as an expert witness, demonstrating correlation is not enough to prove causation. Photographic documentation of a water stain on a window stool is not sufficient evidence to substantiate a claim of a construction deficiency in a building envelope. Similarly, the presence of a retaining wall in proximity to a ground-supported foundation system is not sufficient evidence to substantiate a claim of foundation movement associated with improper design/construction of the retaining wall. The forensic engineer must investigate the matter at hand to a sufficient level commensurate with the specificity of the opinions proffered. While the "burden of proof" and "preponderance of evidence" are legal terms to be decided by the trier-of-fact, it may be a reasonable for one expert witness to opine that the level of investigation performed by an opposing expert witness failed to establish the necessary basis for the opinions proferred. This paper will explore real-world case studies involving allegations of design/construction deficiencies associated with foundations, exterior cladding components, and building envelope systems to examine how different levels of forensic investigation yielded different amounts/types of data that may or may not provide sufficient evidence necessary to support the adopted position of an expert witness.

Brian C. Eubanks, MSCE, PE, SE, MAC, D-IBFES, DFE, is Principal Structural Engineer and founder of Paragon Structural Engineering, LTD. With over two decades of experience, he leads a multidisciplinary team in the structural design and forensic investigation of residential, commercial, and institutional projects. He is a Board-Certified Diplomate in forensic engineering by the National Academy of Forensic Engineers (NAFE) and the International Board of Forensic Engineering Sciences (IBFES) and holds professional engineering licenses in 15 states. Eubanks has been engineer-of-record on a diverse design portfolio and possesses significant proficiency in forensic investigations. He is recognized for expertise in structural systems, building envelopes, components and cladding, and construction defect evaluation. He is an active member of national and regional engineering committees, has authored numerous industry standards and technical publications, is a frequent expert witness in mediation, arbitration, and court proceedings, and served as an arbitrator. Additionally, Eubanks regularly presents at engineering conferences and professional seminars, demonstrating his commitment to advancing best practices in engineering and forensic analysis.

Garrett T. Ryan, PE, MAC, DFE, is an Associate Principal Structural Engineer at Paragon Structural Engineering, LTD. He leads technical teams in the structural design and forensic investigation of planned and existing structures, with focused expertise in building envelopes, soil-structure interaction, structural system performance, and the evaluation of peril-related damage. Ryan is a Board-Certified Diplomate in Forensic Engineering by the National Academy of Forensic Engineers (NAFE) and holds professional engineering licenses in seven states. With more than two decades of experience, his design portfolio spans large custom residences, multi-family buildings, low-rise commercial facilities, and ancillary structures serving as engineer-of-record and designer. He has authored numerous expert reports, stewards quality control for the firm's forensic reports, and provides testimony in arbitration and court cases. He regularly presents technical education sessions for builders and industry professionals, is an active member of two regional engineering committees, and is recognized for his expertise in diagnosing and resolving building envelope and structural performance issues.

Derek T. Patoskie, MECE, PE, is a Senior Staff Structural Engineer at Paragon Structural Engineering, LTD. He specializes in the structural design and forensic investigation of planned and existing structures, with expertise in building envelopes, soil-structure interaction, structural system performance, and the evaluation of peril-related damage. Mr. Patoskie is Building Envelope Certified by the Building Envelope Science Institute (BESI) and the Exterior Design Institute (EDI), Haag Certified, a Model Law Engineer with the National Council of Examiners for Engineering and Surveying (NCEES), an Associate Member of the National Academy of Forensic Engineers (NAFE) and holds professional engineering licenses in two states. Patoskie is an active member of several national engineering committees, has presented at engineering conferences and professional seminars and has contributed to multiple technical publications. With over seven years of experience, he has designed structural foundation systems, conducted a broad range of forensic investigations, prepared expert reports for mediation, arbitration, and court cases, and provided mentorship to developing engineers.

Jahan Rasty, PhD, PE (NAFE #1152S)
Professor, Texas Tech University
Founder and CEO, Real-World Forensic Engineering

Luke Blackwell (NAFE #1275A)
Assistant Engineer,
Real-World Forensic Engineering

Matthew Mills, PE (NAFE #1199A)
Technical Director, Real-World Forensic Engineering

Cameron Rasty (NAFE #1367 Student Member)
Student, Texas Tech University

Time: 9 to 10 AM

Title: Material Selection Error in Body Armor Design: A Forensic Investigation of Bullet Penetration in Steel Armor Plates

Abstract: In January 2019, a man was fatally wounded while wearing a vest marketed as bullet-resistant body armor. This prompted a forensic engineering investigation into the root cause of the failure, focusing on the inability of the front steel panel to prevent through-thickness penetration by a high-velocity rifle bullet. The objective was to determine, on a more-likely-than-not basis, whether the failure resulted from material deficiencies, improper material selection, ballistic factors, or a combination thereof. The investigation employed metallurgical analysis, mechanical testing, and controlled ballistic trials. Results revealed the panel was made from MIL-DTL-46100E steel, intended for vehicular armor, rather than materials rated under National Institute of Justice (NIJ) standards for personal body armor. While 46100E steel has high hardness, it lacks the energy absorption and deformation control needed to minimize trauma in wearable applications. The investigation also examined the role of various entities across the supply chain and found the product lacking appropriate documentation while also failing to communicate limitations for use as body armor. This case highlights the forensic implications of misapplying material standards and underscores the need for clear product design language, rigorous qualification protocols, and defined responsibilities across the supply chain to prevent similar tragedies.

Dr. Jahan Rasty holds BS, MS, and PhD degrees in mechanical engineering and an MBA. Since 1988, he has served as a tenured professor at Texas Tech University where he is currently the founding director of the Materials Performance and Failure Analysis Laboratory as well as the founding director of the graduate-level Applied Forensic Engineering Certificate program. Dr. Rasty is also the founding president and CEO of Real-World Forensic Engineering, LLC (RWFE) where he has investigated 1,500+ cases resulting in 300+ deposition testimonies and dozens of court appearances as an expert witness in the areas of design, mechanical metallurgy, materials science, safety engineering, and warnings.

Matthew Mills, who holds a Doctor of Engineering in multidisciplinary engineering and an MS in mechanical engineering, is a licensed professional engineer with a specialization in engineering design. He also holds a graduate certificate in applied forensic engineering from Texas Tech University. He has 4+ years of experience assisting with analysis of hundreds of forensic engineering investigations and conducting site inspections.

Luke Blackwell holds a BS in mechanical engineering and is currently pursuing a master's degree in the same field. He has 3.5+ years of experience assisting with analysis of hundreds of forensic engineering investigations and conducting site inspections.

Cameron Rasty is an undergraduate senior pursuing a BS in Mechanical Engineering at Texas Tech University. He has more than two years of experience assisting with various forensic engineering cases including mechanical component, product, and procedure failures.

Rebecca A. Bowman, Esq, PE (NAFE #1153M)

Time: 10:15 to 11:15 AM

Title: Challenging the Abuse of “or Equivalent” in Residential Foundation Connections

Abstract: In most jurisdictions, “acceptable equivalents” are evaluated by the local plan reviewer, who may have only minimal training and may or may not be a professional engineer. However, when residential construction is turned over to a homeowner, the signature and seal of the professional design engineer are relied on by both the local plan reviewer and the homeowner seeking assurance that the substitute for the specified system is, in fact, equivalent. One of the most quietly important components of residential construction is the connection between the foundation and the framing. Sill plates with anchors are the conventional method for connection of stick framing to the foundation of a residential home. However, various editions of the IBC have reference to equivalent systems. This session is focused on the forensic analysis of a residential construction project incorporating an allegedly equivalent system. There are two components to that forensic analysis. The first component of the forensic analysis is the mechanics of materials analysis of the installation for various fastener spreads. The second is the allegedly equivalent system is the capacity to resist lateral soil and hydrostatic forces. The session will also evaluate the connection between the stick framing and the proliferation of poured foundations and between stick framing and more traditional block foundations. The water-management implications of the differences between foundation technologies will also be factored into the analysis.

Rebecca Bowman served four years as the Senior Director of Ethics and Professional Practice with the National Society of Professional Engineers. She is the principal of a woman-owned business in civil engineering, dispute resolution, and legal services. She is experienced in boundary law issues, engineering design and forensic analysis, and construction/project management. She is a registered professional engineer, a certified arbitrator, mediator, and Christian conciliator, and a Diplomate of Forensic Engineering. She received her B.S. degree in civil engineering from the University of North Dakota, her M.B.A. degree from Oklahoma University, her J.D. degree from Duquesne University, and she recently completed her certificate in Sustainability Policy from Penn State.

Michael Stall, PE (NAFE #955M)

President, Managed Response, Inc.

Time: 11:15 AM to 12:15 PM

Title: Forensic Engineering Evaluation and Quantification of Hurricane Damage to a Commercial Building

Abstract: Hurricane Beryl affected the Houston area with sustained and gusting winds up to 86 miles per hour over a 30-hour duration. An insurance company-approved engineer inspected a damaged commercial building for a few hours and concluded that most observed damage was caused by pre-existing conditions and/or other non-reimbursable causes like wind-driven rain. Based on this superficial inspection, the insurance company proposed a $35,000 settlement. The building owner retained a forensic engineer, who spent several days evaluating the building design, the as-built configuration of the structure, and the exterior envelope. The forensic engineer identified the actual scope of hurricane damage and quantified the repair cost in a repair cost estimate. Based on the indisputable evidence provided by the forensic engineer, a settlement of $725,000 was made without a dispute or the need to retain attorneys. This paper examines how diligent forensic engineers can help secure fair settlements and prevent disputes by identifying damage and providing undeniable evidence of hurricane damage. The paper will provide specific examples and photographs of how the hurricane caused the damage, how the inspection process was conducted, and how the evidence was quantified and presented to resolve the settlement process.

Michael Stall is a registered professional engineer (#65893) in Texas and is a National Academy of Forensic Engineers board-certified forensic engineer (DFE). Stall earned a master's of science in civil engineering from Stanford University and a bachelor's of science in architectural engineering from the University of Texas at Austin. He has worked as an expert witness in resolution of design, construction, and property insurance settlement disputes over the past 15 years. Stall is also a certified property appraiser and umpire. He has more than 45 years of construction experience as a carpenter, ironworker, foreman, supervisor, engineer, scheduler, and construction manager for construction of shopping centers, single-family homes, multi-family buildings, manufacturing plants, power plants, and medical facilities. He has evaluated hundreds of buildings during the past 30 years that have suffered damage from fires, explosions, hurricanes, earthquakes, tornados, hail storms, design defects, and construction defects. He has published peer-reviewed articles in the *Journal of the National Academy of Forensic Engineers* about construction defects and resolution of schedule delay claims and has made numerous presentations to industry and university groups about construction management and disaster recovery. Stall is founder and president of Managed Response, Inc. (MRI), a Texas-registered professional engineering firm (#00546) and a general contracting company that specializes in evaluation and repair of distressed and damaged properties. MRI is a licensed general contractor in Florida and California and has been in business since 1998. MRI performs construction, renovation, disaster reconstruction, and forensic engineering.

Ziad Azzi, PhD, PE (NAFE #1343M)

Director of Engineering, DDA Forensics

Time: 1:30 to 2:30 PM

Title: Wind Damage Vs. Storm Damage: A Case Study from Hurricane Helene

Abstract: Between 1980 and 2024, natural hazards have resulted in approximately $2.9 trillion in economic losses across the United States. Tropical cyclones represent the most damaging hazard type, accounting for 53% of total losses, and are classified as multi-hazard events due to the combined impacts of extreme wind loading and storm surge inundation. In the contiguous United States, coastal regions comprise only 10% of the total land area yet contain approximately 40% of the population, making these communities particularly susceptible to extensive damage from hurricane-induced aerodynamic and hydrodynamic forces. Following major events, post-disaster damage assessments conducted by federal agencies, such as FEMA, and by private-sector entities, including insurance carriers, are tasked with distinguishing between wind-related and storm surge-related damage. This forensic differentiation is critical for structural failure analysis, accurate insurance claims adjudication, and equitable allocation of recovery resources. Misattribution can lead to substantial disputes and financial discrepancies. This paper presents a case study for both pre-event vulnerability assessments and post-event forensic evaluations aimed at identifying and differentiating wind-induced versus storm surge-induced damage to residential buildings. The proposed methodology integrates civil engineering principles, forensic investigation techniques, and building codes and standards to improve damage attribution accuracy and post-disaster decision-making.

Ziad Azzi, PhD, MBA, PE, DFE, CGC, CCC, PMP, is the Director of Engineering at DDA Forensics. He is a dedicated and innovative civil and structural engineer with more than 10 years of experience, and he brings extensive wind engineering and building enclosure expertise to the team. Due to his extensive work and educational background, Dr. Azzi's expertise encompasses an exceptional mix of capabilities in structural and geotechnical engineering, structural analysis, structural dynamics, earthquake and wind analysis of structures, aeroelasticity, vibration and inspection, as well as evaluation of existing residential and commercial structures. As Director of Engineering at DDA Forensics, Dr. Azzi oversees all aspects of the engineering department. He has published numerous articles and conference papers in prestigious journals as well as delivered lectures and presentations on the wind flow and wind effects on structures. He currently is a lecturer at the University of Miami (UM), teaching undergraduate and graduate-level design courses. Prior to that, Dr. Azzi also taught as an adjunct professor at Florida International University (FIU) in the Department of Civil and Environmental Engineering. He also serves as an expert consultant for Windtech Consultants, certifying their wind engineering reports pertaining to wind loads on tall buildings and facades obtained from wind tunnel testing.

Chad Williams, PE (NAFE #937M)

President and Principal Engineer: Forensics, Valor Engineering

Time: 2:30 to 3:30 PM

Title: Impact of Granule Loss on the Fire Resistance of Asphalt Shingles

Abstract: Asphalt shingles are the most popular residential roof covering in the United States. The National Roofing Contractors Association (NRCA) reports that more than 70% of all residential roofs are covered with asphalt shingles. The most important function of shingle granules is fire protection. The importance of fire and asphalt shingle granules is so important that it is the only one of the several listed functions that actually has its own ASTM standard. Shingles were tested to measure the amount of granular loss that would result in the sample failing to comply with ASTM E108-11 Class C test. Cut shingle samples were placed on wood decks and the burning brands placed in the center of the sample. There were five repetitions in each group. If any of the five samples failed, the entire group failed. Granular removal was in 10% increments from 0% to 100% removal. Results of these tests indicate that shingles that have lost as little as only 10% of their granules will not pass ASTM E108-11 Burning Brand Test for Class C.

Chad Williams is a licensed Professional Engineer and a board-certified Diplomate in Forensic Engineering with more than 22 years of engineering experience, including more than 17 years of forensic engineering and maintenance/operations engineering. Primary practice areas include evaluating residential, commercial, industrial, and institutional facilities to determine the causes and extent of damage related to improper design, construction defects, and damage due to weather events and other causes. In addition, Williams has experience in facilities and asset management through maintenance and operations engineering. He is also involved in technical research, tool and process development, and providing training in forensic engineering and roofing. Williams has served as executive leadership of professional engineering firms and not-for-profit engineering service organizations.

Brian Eubanks, PE (NAFE #962S)
Principal Structural Engineer/Founder,
Paragon Structural Engineering

Garrett Ryan, PE (NAFE #1125M)
Associate Principal Structural Engineer,
Paragon Structural Engineering

Noel Janacek, PE (NAFE #1375M)
Engineering Director,
Paragon Structural Engineering

Joseph Roberts, PE (NAFE #1354A)
Senior Structural Engineer,
Paragon Structural Engineering

Time: 3:45 to 4:45 PM

Title: Beyond the Building Code: Design and Forensic Failure Analysis of Retaining Walls

Abstract: Retaining walls are structural walls that serve to laterally restrain earth at a desired elevation in order to shape the topography of a site by managing slopes and creating usable spaces for development and construction of the built environment. Common types of retaining walls include mass/gravity walls, cantilever walls, pile walls, and mechanically stabilized earth (MSE) walls. The design and construction of such walls is not well-covered in the International Residential Code (IRC) and/or International Building Code (IBC). As structural elements subjected to applied soil forces, retaining walls cross engineering disciplines, and a successful design often requires careful coordination between geotechnical engineers and structural engineers. In addition, successful construction often requires field verification of expected geotechnical parameters and construction oversight to ensure compliance with design specifications. This paper will explore the different stability checks (e.g., internal stability, local stability, and global stability) as well as different factors of safety required for proper design of a retaining wall. In addition, it will utilize real-world case studies to explore failures of various retaining walls, highlighting differences between forensic failure analysis and design-compliance analysis in order to identify the root cause of the failure and the responsible party.

Brian C. Eubanks, MSCE, PE, SE, MAC, D-IBFES, DFE, is Principal Structural Engineer and founder of Paragon Structural Engineering, LTD. With over two decades of experience, he leads a multidisciplinary team in the structural design and forensic investigation of residential, commercial, and institutional projects. He is a Board-Certified Diplomate in forensic engineering by the National Academy of Forensic Engineers and the International Board of Forensic Engineering Sciences and holds professional engineering licenses in 15 states. Eubanks has been engineer-of-record on a diverse design portfolio and possesses significant proficiency in forensic investigations. He is recognized for expertise in structural systems, building envelopes, components and cladding, and construction defect evaluation. He is an active member of national and regional engineering committees, has authored numerous industry standards and technical publications, is a frequent expert witness in mediation, arbitration, and court proceedings, and served as an arbitrator.

Noel W. Janacek, MSCE, PE, DFE, is Engineering Director at Paragon Structural Engineering, LTD. With more than two decades of combined construction and engineering experience, he oversees the firm's structural design and forensic investigations of new and existing structures. He is a Board-Certified Diplomate in Forensic Engineering by the National Academy of Forensic Engineers, Pre-Certified in multiple TxDOT categories, and holds professional engineering licenses in five states. Janacek has been engineer-of-record and provided design and technical leadership for projects across transportation, infrastructure, and commercial development while serving as a senior reviewer and technical advisor on major programs. He is recognized for his depth of experience in geotechnical and structural evaluations, his commitment to advancing professional standards, and serves as a consultant and expert witness for mediation, arbitration, and court cases.

Garrett T. Ryan, PE, MAC, DFE, is an Associate Principal Structural Engineer at Paragon Structural Engineering, LTD. He leads technical teams in the structural design and forensic investigation of planned and existing structures, with focused expertise in building envelopes, soil-structure interaction, structural system performance, and the evaluation of peril-related damage. Ryan is a Board-Certified Diplomate in Forensic Engineering by the National Academy of Forensic Engineers and holds professional engineering licenses in seven states.

Joseph P. Roberts, MECE, PE, MLSE, MAC, is a Senior Structural Engineer at Paragon Structural Engineering, LTD. He leads a technical team in the structural design and forensic investigation of planned and existing structures, with increased specialization in retaining walls and thermal envelopes. He is Building Envelope Trained and Certified by the Building Envelope Science Institute, Haag Certified, a Licensed Mold Assessment Consultant, a Model Law Engineer and a Model Law Structural Engineer with the National Council of Examiners for Engineering and Surveying and holds professional engineering licenses in three states. Roberts is an Associate Member of the National Academy of Forensic Engineers and has presented at professional seminars.

Bart Kemper, PE (NAFE #965F)

Principal Engineer, Kemper Engineering Services

Time: 4:45 to 5:45 PM

Title: Examining Failure Modes of the TITAN Submersible Hull

Abstract: While design failures in well-organized engineering organizations can occur, it is more challenging to investigate failures in organizations that do not meet the usual standard of care for engineering design and development. The underwater exploration company OceanGate publicly changed its procedures to reject established engineering codes and standards to innovate "like NASA" to develop a novel carbon fiber composite hull for its third submersible, the TITAN. The TITAN's loss at sea with five people aboard in June 2023 captured worldwide media attention, which subsequently impacted the resulting investigations. This was the first loss of a non-military submersible in over 50 years and the first to be subject to a Marine Board of Investigation. While most forensic work is obscured from public view, the public nature of the joint US Coast Guard/National Transportation Safety Board investigation allows much of the investigation process to be discussed, including how legal and organizational issues impacted the forensic engineering work of the non-governmental volunteer technical team supporting the joint USCG/NTSB investigation. This paper reflects the team's examination of the novel thick-wall pressure vessel design and the basis for concluding that the most likely point of structural failure was the hull-to-ring glued joint.

Bart Kemper is a Louisiana-based mechanical engineer with 30 years of industrial and forensic experience with a civil background through the U.S. Army Corps of Engineers, where he retired as a Lt. Colonel. Kemper's expertise in pressure vessels, piping, marine, and subsea engineering, plastics, life-safety applications, medical devices, human factors, and numerical modeling led to his membership in the ASME Codes and Standards Committee for Pressure Vessels for Human Occupancy and its various subcommittees. He has used computer simulations throughout his civilian and military engineering career and has successfully incorporated it in his forensic work. Kemper is a past NAFE vice president, former Editor-In-Chief of the *Journal of the National Academy of Forensic Engineers*, and is current Editor Emeritus of the *Journal*.

NAFE Sunday Schedule (January 18, 2026)

Steven Batzer, PE (NAFE #677F)

Owner, Batzer Engineering

Time: 8 to 9 AM

Title: From the Front Lines of Forensic Engineering

Abstract: Masters of Science student Steve Batzer was thoroughly impressed by one of his professors at the GMI Engineering and Management Institute, Dr. David Roy Clark, PE. Dr. Clark did not simply teach Industrial Health and Safety, he made it relevant by incorporating seemingly endless “war stories” from his side forensic consulting practice that insightfully illustrated the points he was making. Students learn and are entertained by these parable-like explanations of succinct engineering principles. After the completion of his studies at the Michigan Technological University, now Doctor of Mechanical Engineering Steve Batzer, PE, secured his first forensic engineering case. That was 25 years ago, and this lecture presents different case studies to illustrate thematic approaches, strategies, and aspects of forensic engineering, exactly as Dr. Clark did in the early 1990s.

Steve Batzer is a mechanical forensic engineer who consults with clients regarding patent infringement, firearms, and the forensic analysis of accidents and product failures. He has taught at five universities, served as a commissioned officer of the U.S. Army, and has worked as a manufacturing engineer in the Michigan automotive industry. He has testified at more than 50 trials and published more than 70 peer-reviewed engineering papers. Dr. Batzer is also a member the Society of Automotive Engineers, the American Society of Mechanical Engineers, and is a fellow of the National Academy of Forensic Engineers. He is a Vice President of the Michigan Society of Professional Engineers and encourages all engineers to be licensed. He earned his BS in mechanical engineering from Michigan Tech, an MS degree in manufacturing systems engineering from the GMI Engineering and Management Institute in Flint, Michigan, and a Ph.D. in Mechanical Engineering, again from Michigan Tech. Dr. Batzer lives with his wife in a log cabin in the Pere Marquette forest near Fife Lake, Michigan.

Lori Cox, PE (NAFE #1302S)

Regional Director, Engineering Design & Testing Corp. (EDT)

Time: 9 to 10 AM

Title: The Hidden Load: Mental Health Challenges in Forensic Engineering

Abstract: Forensic engineering demands precision, composure, and objectivity in the face of conflict, loss, and high stakes. Yet behind every failure analysis, deposition, or courtroom testimony lies a professional navigating chronic stressors that few outside the discipline truly understand. The adversarial nature of litigation, ethical pressures of expert testimony, exposure to tragedy and human loss, and the constant demand for technical perfection can exact a profound psychological toll on engineers in this field.

This presentation explores the unique mental health challenges faced by forensic engineers through the lenses of occupational psychology, ethics, and professional culture. Topics include compassion fatigue and secondary trauma associated with investigations involving injury or death; burnout linked to long travel schedules, report deadlines, and adversarial scrutiny; imposter syndrome in expert witness work; and the isolating effects of confidentiality and client privilege constraints. Real-world case examples illustrate how these stressors manifest in professional practice and affect decision-making, communication, and overall well-being.

Participants will gain awareness of the hidden emotional costs of forensic engineering, learn to recognize early warning signs of mental strain, and explore evidence-based strategies for resilience and self-care. The session also emphasizes the importance of fostering a culture of peer support, mentorship, and mental health literacy within technical organizations. By bringing these conversations into the open, we can help ensure that those who investigate failures do not quietly endure their own.

Lori Cox is a licensed Professional Engineer with over 25 years of experience in forensic engineering, specializing in structural failures, construction defects, premises liability, and construction-related injury investigations. She is licensed in 35 states and currently serves as Regional Director of Engineering Design & Testing Corp. (EDT). As a Senior Fellow and Board Certified Diplomat in Forensic Engineering, and through her service in the ASTM committee on Forensic Engineering and ASCE on the Wildfire Resiliency Standards Committee, she is dedicated to advancing the field through thorough investigations and serving as an expert witness, all driven by a commitment to excellence and a passion for technical engineering emergency response operations. Her work spans commercial, residential, municipal, and industrial sectors, and she has provided expert opinions in numerous litigation matters in both state and federal courts. Lori brings astrong understanding of the legal landscape to her technical investigations. She is known for her analytical rigor, clear communication, and commitment to professional integrity—qualities that continue to define her leadership in the forensic engineering field.

Carlos Morales (NAFE #1380)
Civil Structural Engineer, G.M. Selby, Inc

Gerald Zadikoff, PE (NAFE #751M)
CEO, G.M. Selby, Inc

Time: 10:15 to 11:15 AM

Title: Seawall Collapse and Mitigation

Abstract: This paper presents a forensic engineering analysis of a partial seawall failure at a condominium complex comprising two eight-story buildings, a clubhouse, and a pool deck. Initial assessments identified inadequate repairs by an external firm; subsequently, the seawall collapsed during the design phase for its replacement due to multiple contributing factors, including insufficient maintenance, flawed repair assumptions, and adverse environmental conditions. The study reviews immediate mitigation strategies and post-collapse evaluations, highlighting the impact of external loads and inherent structural deficiencies. The findings emphasize the essential role of forensic engineering in promoting the resilience of coastal infrastructure.

Carlos Morales works as a Civil Structural Engineer for G.M Selby, Inc a professional consulting firm specialized in integrating disciplines and sciences to provide custom services for their clients.

Gerald Zadikoff is a corporate executive with broad experience in all aspects of Infrastructure design and development including Telecommunications, engineering design and construction management, Coastal and Ocean engineering, Structural engineering, Civil/Environmental engineering and Forensic engineering. He has direct experience with multiple USA markets as well as many emerging markets worldwide. Gerald has the ability to provide funding sources for specific infrastructure operations. His success has largely been with early-stage startup operations (as owner/operator or consultant/ exec) in emerging markets as well as all other infrastructure project completions. Gerald was chosen to the select ASCE committee as a member of the Industry Leadership Council. Member of NAFE (National Academy of Forensic Engineers), specializes in structural damage assessments, Coastal structures and Marine related accidents. LEED Certified. He is a Voting Committee Member of ASTM committee on Forensic Engineering and on ASTM Committee on Structures,(Building Envelope). Current Board Member of the Miami-Dade County Office of International Trade and Development. He served 3 years as a Board Member of the SAAC at EXIM Bank (USA). Expert Witness with numerous successful cases in Federal Court and State court relating to high rise damage and construction deficiency as well as other infrastructure and marine related projects.

Rich Kovarsky, PE, DFE, CFI, CFEI (NAFE #1209S)

President/Senior Forensic Engineer, Pyro-Technical Investigations

Time: 11:15 AM to 12:15 PM

Title: Water Losses and NFPA 921

Abstract: In 30 years of investigative experience with fire and water losses, I have found that when investigating fire losses, there are many books, guides and other resources on how to properly conduct a fire investigation. Documents such as NFPA 921, "Guide to Fire and Explosion Investigation" and books by Lenitini and DeHaan are all useful references. When it comes to the investigation of water losses there is no comparable body of literature, that I am aware of, that provides guidance on how to properly conduct such an investigation. This results in a case where procedures that would be considered unacceptable during a fire investigation are routinely used and considered acceptable when investigating a water loss. While NFPA 921 specifically addresses fire losses, I believe that the investigative principles in this document are equally applicable to water losses.

As owner and principal engineer of Pyro-Technical Investigations, Rich Kovarsky's clients benefit from his 40+ years of engineering experience (25+ years specifically in forensic engineering and consulting). Throughout his career, he's conducted and/or supervised 5500+ forensic investigations and testified 250+ times (trial and deposition) in both federal and state courts. He is a Registered Professional Engineer in 17 U.S. States and a Certified Fire and Explosion Investigator.

Bart Kemper, PE (NAFE #965F)

Principal Engineer, Kemper Engineering Services

Time: 1:15 to 3:15 PM & 3:30 to 4:30 PM

Title: Forensic Engineering Panel Discussion on the TITAN Disaster

Abstract: Bart Kemper as lead, with co-hosts for each one-hour part

Full panel:

- Bart Kemper: Team lead, structural analysis, acrylics, VVUQ
- Tom Whalen: USCG Investigator
- Krista Kemper: Charter member of the World Submarine Organization. Submarine industry issues, review of contracts other business issues with OceanGate
- William Emblom: Structural analysis
- Mitch Maifeld: Electrical engineering and computers
- Alexis San Miguel: Life support and human factors
- Mike Gordon: Peer Review.

Hour 1: Co-Host LCDR Tom Whalen, "USCG and Maritime Investigation" – sets the stage with what the USCG does (instead of what everyone thinks they do), their responsibilities in SAR, and what the MBI's role is and is not. This part will focus on events prior to the expedition, during the expedition, and the recovery operations.

Hour 2: Dr. William Emblom, PhD – "The technical investigation". This is where much of the panel gets to chime in with the KES's team efforts. This part will include dialogue and discussion about technical matters, and include Mitch to talk about EE, Alexis for life support.

Hour 3: Mike Gordon, P.E. – "The long-term impact" Mike has worked a number of major forensic investigations, most notably the COLUMBIA shuttle disaster and gave testimony to Congress. Mike will use this background to make observations and post questions to the panel about the long term implications to the industry, USCG future changes, etc.

Bart Kemper is a Louisiana-based mechanical engineer with 30 years of industrial and forensic experience with a civil background through the U.S. Army Corps of Engineers, where he retired as a Lt. Colonel. Kemper's expertise in pressure vessels, piping, marine, and subsea engineering, plastics, life-safety applications, medical devices, human factors, and numerical modeling led to his membership in the ASME Codes and Standards Committee for Pressure Vessels for Human Occupancy and its various subcommittees. He has used computer simulations throughout his civilian and military engineering career and has successfully incorporated it in his forensic work. Kemper is a past NAFE vice president, former Editor-In-Chief of the *Journal of the National Academy of Forensic Engineers*, and is current Editor Emeritus of the *Journal*.