

# ELISABETH A. MALSCH, PH.D., P.E.

## Managing Principal



### Summary

Elisabeth Malsch is an expert in structural analysis and design, with specializations in investigative projects. She is proficient in static, dynamic and nonlinear analysis and the evaluation of buildings, temporary structures, and mechanical systems under the effects of typical to extreme loads. In addition to serving as co-leader of our Forensics practice, she is part of the leadership team that oversees the firm's research and development program.

### Education

- Ph.D., M.Phil, M.S., Engineering Mechanics, 2003, 2001, 2000 (respectively), Columbia University
- B.S., Civil Engineering, 1999, Columbia University

### Registrations

- Licensed Professional Engineer in CT, DC, FL, GA, MA, MN, NJ, NY, OH, RI, TN, TX, VA, Ontario and Nova Scotia, Canada

### Professional Activities

- Chair, American Friends of the Alexander von Humboldt Foundation
- Secretary, Thornton Tomasetti Foundation
- Treasurer, TTWIIN2
- Member, American Society of Civil Engineers (ASCE)
- Adjunct Assistant Professor, Columbia University, since 2010
- Fellow, Technische Universität Braunschweig, Germany, 2004-2005
- Post-Doctoral Researcher, Columbia University, 2003-2004

### Honors and Awards

- Fellow, Engineering Mechanics Institute, ASCE, 2025
- Presidential Appointee to the Engineering Mechanics Institute Board, ASCE, 2018-2019
- U.S. Frontiers of Engineering Symposium, National Academy of Engineering, 2016
- Top 20 Under 40, Engineering News Record, 2012
- Columbia Mindlin Prize, 2003

### Select Project Experience

#### Forensic Structural Engineering

**I-35 West Bridge Collapse**, Minneapolis, MN. Investigation to determine the cause of the steel truss bridge collapse.

**Tropicana Parking Garage Collapse**, Atlantic City, NJ. Investigation to determine the cause of the cast-in-place structure's collapse during construction.

**OWA Aquarium**, New York, NY. Investigation to determine why the interconnected concrete tanks were not watertight and review the repair.

#### Forensic Engineering Mechanics

**Riser System Investigation**, Ontario, CA. Investigation to determine the cause of wall anchor failures, including the performance of the riser system and the forces associated with the fluid flow.

**Paper Pulp Mill Digester Failure**, Ontario, CA. Investigation to determine the cause of multiple paper pulp mill digester failures.

**Scattergood 3 Corrosion Investigation**, Los Angeles, CA. Investigation of severity of corrosion, condition of coatings, and the associated impact to mechanical systems and structural performance.

#### Structural Stabilization

**Sherman Minton Bridge**, spans from KY to IN. Retrofit of a fracture-critical bridge.

**261 Madison Avenue**, New York, NY. Emergency response and stabilization of building after catastrophic impact. Prescribe and review structural and cladding repairs.

**130 Liberty Street**, New York, NY. Stabilization of a 50-story building during deconstruction activities.

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### Sworn Testimony

Deposition, Board of Managers of the 432 Park Condo., et al v. 56th Park Owner, LLC, et al, Supreme Court of the State of New York. February 10-11, 2026.

Deposition, Tutor Perini Bldg. Corp. v. Slayton Ventures, LLC, et al, Supreme Court of the State of New York. November 21, 2025.

Deposition, Tutor Perini Corp. v. Commonwealth of Virginia, et al, Tysons, VA. Circuit Court for the City of Norfolk. October 25, 2024.

Deposition, Buzwin Donut Corp. v. Sentinel Ins. Co. Lmtd., New York, NY. October 22, 2024.

Deposition, D-1566, Appeal of Technopref Industries, Washington, DC. September 19, 2024.

Deposition, Worth Constr. Co., Inc. & Liberty Mutual Ins. Co. v. Rutgers & Flad Architects & Engineers, Inc., et al, Superior Court of New Jersey. September 16, 2024.

Testimony, Rose Grp. Park Ave. LLC v. Third Church of Christ, Scientist of New York City, Supreme Court of the State of N.Y., County of N.Y. January 23, 2023.

Deposition, Pizzarotti, LLC v. FPG Maiden Lane, LLC, et al., FPG Maiden Lane, LLC, et al. v. Pizzarotti, LLC, et al. December 14, 2022.

Hearing, Virtual, regarding an OSHA case involving internal wire breaks. February 24, 2022.

### Patents

Title of Invention: Tuned Liquid Damper with a Membrane Liquid-Gas Interface. Attorney Docket No. 029468.00146. Confirmation No. 4832. Filed on February 23, 2018.

### Select Papers, Lectures and Publications

"A Current Mapping of the Permeable Boundary Between Design, Innovation and Academic Research" Mini Symposium Abstract to the 2025 Engineering Mechanics Institute 2025 Conference. December 20, 2024 (co-author)

"Ethics of Engineers in the Public Discourse When Catastrophes Occur," Proceedings of the 10th Congress on Forensic Engineering, Seattle, WA, November 2024 (co-presenter)

"Adjacent Construction Vibrations: Perception versus Reality," Proceedings of the 10th Congress on Forensic Engineering, Seattle, WA, November 2024 (co-presenter)

"Surfside Collapse Investigation Initial Findings," Proceedings of the 10th Congress on Forensic Engineering, Seattle, WA, November 2024 (co-presenter)

"Using Technology to Speed Up Inspection and Reporting—Panelized Roof Case Study," Proceedings of the 10th Congress on Forensic Engineering, Seattle, WA, November 2024 (co-presenter)

"Forensic Engineering 2024: Finding Answers to the What, Why, Who, and How of Preventing Failures," Proceedings of the 10th Congress on Forensic Engineering, Seattle, WA, November 2024 (co-author)

"Technology in Construction Law," ABA Book Publishing, Ch. 5, 6, & 7. August 11, 2023 (co-author)

"Innovative Liquid Damper for Wind-Induced Vibration of Buildings: Performance After Four Years of Operation and Next Iteration," International Journal of High-Rise Buildings, Vol. 10, CTBUH Korea, 2021 (co-author)

"Vibration Analysis of Footbridges: An Overview of the Current Practice," MATEC Web of Conferences. Vol. 211, EDP Sciences, 2018 (co-author)

"Remediation of Wind-Induced Building Vibrations with Modular Tuned Liquid Damper System," ASCE Forging Forensic Frontiers, 2018 (co-author)

"No-Touch Inspections: Challenges in Non-Destructive Evaluation of Subjects That Are Buried and Underwater," ASCE Forging Forensic Frontiers, 2018 (co-author)

"Rails in Retractable Roofs: Overview of the Design Methodology and a Case Study," ASCE Forging Forensic Frontiers, 2018 (co-author)

"Design and Commissioning of a New Liquid Damper System for Wind-Induced Vibrations of Buildings," IABSE Symposium: Engineering the Future, Vancouver, Canada, September 21-23, 2017 (co-author)

"Innovative Tuned Liquid Damper System," IABSE Congress: Challenges in Design and Construction of an Innovative and Sustainable Built Environment, Stockholm, Sweden, September 21-23, 2016 (co-author)

"Informed Structure: Forensic Information Modelling," Proceedings of the Institution of Civil Engineers-Forensic Engineering, Thomas Telford, Ltd., Vol. 168, 2015 (co-author)

### CONTACT

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