PERSONNEL QUALIFICATIONS

Michael M. Drury | Associate III

EDUCATION

- Lehigh University
  - Bachelor of Science, Civil Engineering, 2017
  - Master of Science, Structural Engineering, 2019
  - Doctor of Philosophy, Structural Engineering, 2022

PRACTICE AREAS

- Structural Evaluation
- Failure/Damage Investigations
- Fire Protection
- Instrumentation/Monitoring/ Load Testing
- Repair and Rehabilitation Design
- Structural Analysis/ Computer Modeling
- Nondestructive Evaluation

PROFESSIONAL AFFILIATIONS

- American Institute of Steel Construction (AISC)
- American Society of Civil Engineers (ASCE)
- Delaware Valley Association of Structural Engineers (DVASE)

TECHNICAL COMMITTEES

- ASCE/SEI Fire Protection Committee

CONTACT

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EXPERIENCE

Michael Drury's work focuses on projects involving the investigation, analysis, and repair of existing structures. Dr. Drury is experienced in the assessment of damaged and deteriorated steel, wood, concrete, and masonry structural elements and systems. His expertise encompasses condition assessments, nondestructive evaluation, in-situ structural monitoring and testing, structural analysis, computer modeling, preparation of repair documents and structural condition reports, on-site construction observation, and quality assurance oversight.

As a doctoral student at Lehigh University's Center for Advanced Technology for Large Structural Systems, Dr. Drury conducted five years of experimental and computational research on steel-concrete composite floor systems under fire exposure. He designed and managed large-scale structural furnace tests that subjected representative structural systems to combined fire and gravity loading. In addition to physical testing, Dr. Drury validated thermal and structural finite element models against the acquired test data and developed simplified design methods to assess structural fire resistance.

REPRESENTATIVE PROJECTS

Structural Evaluation

- Morgan Lighthouse Condominiums - Jersey City, NJ: Full condition assessment of reinforced concrete building
- Saints Cyril and Methodius Church - Boonton, NJ: Investigation and analysis of historic wood roof truss
- Metropolitan Opera Scenery Shop - New York, NY: Investigation and analysis of draped mesh floor system for forklift load

Failure/Damage Investigations

- El Conquistador Condominiums - Seaside Heights, NJ: Structural evaluation of deteriorated proprietary precast concrete balconies
- The Plaza at Cherry Hill - Cherry Hill, NJ: Investigation and analysis of deflected masonry roof screen wall

Fire Protection

- Fire Rating Assessment - Boston, MA: Determination of fire rating for historic hollow clay tile wall system *
- Structural Fire Design - Bethlehem, PA: Development of simplified heat transfer and structural models to determine the fire resistance of composite floor beams *

Instrumentation/Monitoring/Load Testing

- Merck & Company - Boston, MA: Structural load testing of rooftop facade access anchorages
- Loews Hotel - Philadelphia, PA: Structural load testing of facade access anchorages
- Furnace Testing of Composite Floors - Bethlehem, PA: Instrumentation and monitoring of deflection and temperature data during experiments *

Repair and Rehabilitation Design

- Horizon NJ Health Parking Garage - Newark: Investigation and analysis of corroded steel parking garage stairs
- Dee Packaging Solutions - Chester, PA: Investigation, analysis, and design of repairs for damaged historic wood roof truss
- The Grand - Parsippany, NJ: Structural retrofit design for new freight elevator

** Projects prior to WJE*

PUBLICATIONS

- Drury, M.M., Quiel, S.E. "Standard versus natural fire resistance for partially restrained composite floor beams, 1: Testing & 2: Analysis" *Journal of Constructional Steel Research,* 2023.
- Drury, M.M., Kordosky, A.N., Quiel, S.E. "Robustness of a partially restrained, partially composite steel floor beam to natural fire exposure: Novel validation and parametric analysis." *Journal of Building Engineering*, 2021.
- Drury, M.M., Kordosky, A.N., Quiel, S.E "Structural fire resistance of partially restrained, partially composite floor beams, I: Experiments & II: Modeling." *Journal of Constructional Steel Research*, 2020.