



#### EDUCATION

- University of Illinois at Urbana-Champaign
  - Bachelor of Science, Civil Engineering, 2008
  - Master of Science, Structural Engineering, 2010
  - Doctor of Philosophy, Structural Engineering, 2013

#### PRACTICE AREAS

- Concrete Structures
- Corrosion
- Failure/Damage Investigations
- Instrumentation/Monitoring/Load Testing
- Laboratory Evaluations
- Nondestructive Evaluation
- Repair and Rehabilitation
- Structural Analysis
- Vibration and Noise Monitoring

#### REGISTRATIONS

- Professional Engineer in IL
- Structural Engineer in IL

#### PROFESSIONAL AFFILIATIONS

- American Concrete Institute (ACI)
- American Society of Civil Engineering (ASCE)
- Earthquake Engineering Research Institute (EERI)
- Structural Engineers Association of Illinois (SEAOI)

#### EXPERIENCE

Since joining WJE in 2013, Thomas Frankie has performed a broad range of assignments, including condition assessment, failure investigation, nondestructive evaluation, monitoring of existing structures, structural testing and analysis, development of repair plans and specifications, and construction period services.

Dr. Frankie specializes in the assessment of reinforced concrete structures compromised due to failure, accident, natural disaster, or material degradation, particularly due to corrosion. He has applied advanced laboratory and field investigation techniques to many unique situations. Dr. Frankie has investigated concrete-related problems in numerous structures, including historic and modern buildings, stadiums, prestressed and post-tensioned structures, bridges, parking garages, slabs-on-grade, pavements, and foundations.

Dr. Frankie is affiliated with several professional societies, has authored numerous papers in peer-reviewed journals, and has given technical presentations on the development and application of various experimental and analytical methods in structural engineering.

#### REPRESENTATIVE PROJECTS

##### Corrosion

- Soldier Field - Chicago, IL: Concrete inspections and corrosion monitoring
- Miami-Dade County Courthouse - Miami, FL: Evaluation of reinforced concrete corrosion mitigation methods
- U.S. Embassy - Nouakchott, Mauritania: Corrosion rate modeling and service life design recommendations
- Prairie Medical Center - Westchester, IL: Corrosion rate testing of structural slab

##### Failure/Damage Investigations

- Leo Frigo Bridge - Green Bay, WI: Investigation of failed interstate bridge pier
- Long Grove, IL: Investigation of damages at numerous residences following nearby natural gas explosion

##### Instrumentation/Monitoring/Load Testing

- University of Texas Southwestern Medical Center - Dallas, TX: Instrumentation and load testing of barrier cables after failure
- Storage Facility - Tampa, FL: Evaluation and testing of carbon fiber repairs
- University of Mississippi - Oxford: Investigation and testing of parking garage topping slab repairs

##### Laboratory Evaluations

- Montana Department of Transportation: Restrained shrinkage testing for new concrete bridge deck mix design
- Wilshire Grand Tower - Los Angeles, CA: Testing and evaluation of concrete creep and shrinkage

##### Nondestructive Evaluation

- Condominiums - Galveston, TX: Assessment of concrete cover with radar techniques
- Niles North Aquatic Center - Skokie, IL: Nondestructive evaluation of quartz aggregate cementitious pool topping

##### Repair and Rehabilitation

- 1630 Sheridan Road - Wilmette, IL: Balcony repairs at ten-story lake property
- Gateway Technical College, Racine, WI: Facade repair services on multiple buildings

##### Structural Analysis

- Dix Dam Powerhouse - Harrodsburg, KY: Evaluation of approach bridge deck and structural slab capacities
- Apollo Way Apartments - Madison, WI: Evaluation of fire damaged reinforced concrete structural capacity

##### Vibration and Noise Monitoring

- Pipelines - IL and IN: Vibration monitoring during excavation and stabilization of pipeline route
- CTA Wilson Station - Chicago, IL: Vibration monitoring of adjacent buildings during demolition and construction

#### CONTACT

tfrankie@wje.com  
847.272.7400  
www.wje.com