PERSONNEL QUALIFICATIONS

Mohamed ElBatanouny | Associate Principal and Unit Manager

EDUCATION

- Helwan University, Egypt
  - Bachelor of Science, Civil Engineering, 2008
- University of South Carolina
  - Master of Science, Civil Engineering, 2010
  - Doctor of Philosophy, Civil Engineering, 2012

PRACTICE AREAS

- Structural Evaluation
- Repair and Rehabilitation Design
- Health Monitoring and Instrumentation
- Nondestructive Evaluation
- Load Testing
- Research and Testing
- Bridge Engineering
- Vibration and Noise Monitoring

PROFESSIONAL AFFILIATIONS

- American Concrete Institute
- American Society for Nondestructive Testing
- Transportation Research Board

REGISTRATIONS

- Structural Engineer in IL
- Professional Engineer in IA, UT, and WI

CONTACT

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EXPERIENCE

Since joining WJE in 2015, Mohamed ElBatanouny has worked on a variety of projects, including structural evaluation, vibration analysis, and health monitoring and instrumentation. He has a background and interest in condition assessment of existing structures, nondestructive evaluation, concrete material degradation, load testing, and full-scale experimental characterization.

Prior to joining WJE, Dr. ElBatanouny served as Postdoctoral Fellow and Adjunct Professor at the University of South Carolina, where he participated in numerous sponsored research projects, including a four-year project sponsored by NIST entitled "Self-Powered Wireless Sensor Network for Structural Bridge Health Prognosis." In this research project, he used acoustic emission monitoring to develop a novel noninvasive approach for corrosion damage detection and classification in prestressed and post-tensioned concrete members.

Dr. ElBatanouny is an active member of several technical committees and has presented numerous lectures on structural evaluation, load testing, nondestructive evaluation, and concrete material degradation. He has authored more than sixty significant publications, including two book chapters.

REPRESENTATIVE PROJECTS

Structural Evaluation and Repair Design

- Abbott Laboratories Nutrition Plant - Jhagadia, India: Structural evaluation of multistory plant
- Port of Houston Authority - TX: Repair design for multiple wharf structures at the Turning Basin Terminal
- Union Station Transit Center - Chicago, IL: Repair design and construction observation of concrete repairs at pedway tunnel

Health Monitoring and Instrumentation

- CTA Yellow Line Embankment - Skokie, IL: Emergency tilt monitoring of multiple piles after sudden collapse of embankment
- Ship Channel Bridge - Houston, TX: Monitoring of girder movement in existing bridge during replacement bridge construction
- Chicago Public School District - IL: Structural condition assessment; instrumentation and load testing of reinforced concrete roofs
- James K. Polk Building - Nashville, TN: Long-term acoustic emission and vibration monitoring of post-tension wire breaks

Nondestructive Evaluation

- TTC Steeles West Subway Station - Ontario, Canada: Evaluation of exterior concrete walls using impulse response
- High-Rise Building - Chicago, IL: Condition assessment of post-tensioned slabs and concrete facade

Bridge Engineering

- Poplar Street Bridge Complex - East St. Louis, IL: Condition assessment and repair recommendations for bridge deck
- Multiple Bridges - IA: Performance evaluation of bridge abutments and approach backfill
- IH-345 Bridge - Dallas, TX: Instrumentation and load testing of multiple spans

Research and Testing

- Bridge Deck Preservation Portal Phase 1 - Pooled fund study, Iowa DOT
- Use of Polymer Overlays or Sealers on New Bridges - IHRB, Iowa DOT
- Guidelines for Transporting Prestressed Girders - LA DOTD
- Acoustic Emission Sensing System Demonstration at the 105-C Decommissioned Nuclear Reactor Facility - SRNL *
- Self-Powered Wireless Sensor Network for Structural Bridge Health Prognosis - NIST *

TECHNICAL COMMITTEES

- ACI 437 - Strength Evaluation of Existing Concrete Structures, subcommittee chair
- ACI 342 - Evaluation of Concrete Bridges and Bridge Elements
- ACI 444 - Structural Health Monitoring and Instrumentation, committee secretary
- AFF40 - Standing Committee on Testing and Evaluation of Transportation Structures
- AHD37 - Standing Committee on Bridge Preservation, committee research coordinator

** Indicates while at the University of South Carolina*