

Juan Carlos Araiza

Senior Associate



EDUCATION

University of Aguascalientes, Mexico
Bachelor of Science, Civil Engineering, 1996
Polytechnic University of Catalonia, Spain
Doctor of Philosophy, Structural Engineering, 2003

PRACTICE AREAS

Computer Modeling
Dynamic Testing and Analysis
Finite Element Analysis
Historic Preservation
Nondestructive Testing
Repair and Rehabilitation
Structural Investigation

EXPERIENCE

Dr. Araiza joined WJE in 2009 with over thirteen years of design, construction, and research experience related to evaluation of existing structures, dynamic assessment of historic buildings, repair and rehabilitation design for ancient structures and seismic evaluation and retrofit of buildings. He also has extensive experience evaluating dynamic properties of building components and performing finite element modeling.

Dr. Araiza holds a PhD in Structural Engineering from the Polytechnic University of Catalonia in Spain. His research has encompassed a wide variety of building preservation projects in Spain, Italy, Belgium, Japan, and Mexico. He was previously a professor of structural engineering at the University of Colima in Mexico.

From 2003 to 2007, he served as a consultant on structural preservation of ancient structures to the National Institute of Anthropology and History (INAH) in Mexico. Additionally, from 2007 to 2009, Dr. Araiza worked at a consulting firm in Texas where he was responsible for evaluation and repair/rehabilitation projects of historic structures in the United States.

REPRESENTATIVE PROJECTS

Structural Investigation

- Fort Bliss: Structural assessment and anti- terrorism retrofit, Fort Bliss, Texas
- Fort Concho National Historic Landmark: Structural assessment, San Angelo, Texas
- *Cacaxtla* pre-colonial pyramid (around 400 CE): Structural assessment, (fourteenth century), Tlaxcala, Mexico
- *Bonampak* Pre-colonial Pyramid (ca. A.D. 580 to 800): Earthquake retrofit design, Chiapas, Mexico
- *Palenque* Pre-colonial Funerary Monument (A.D. A.D. 683): Relocation of tomb memorial stone, Chiapas, Mexico
- *Ixcaquixtla* Pre-colonial Tomb: Relocation of memorial stone, Puebla, Mexico
- *Palacio de Bellas Artes*: Structural assessment of facade sculptures, Mexico DF

Repair and Rehabilitation Design

- Kellum-Noble House: Structural assessment and preservation project, Houston, Texas
- Galveston Cathedral: Structural assessment and rehabilitation design, Galveston, Texas
- McCulloch, Lavaca, and Randall County Court Houses: Structural assessment and rehabilitation design, Texas
- San Pedro, Sagrado Corazon, La Estancia, and La Merced (nineteenth-century churches): Earthquake retrofit design, Colima, Mexico

Nondestructive Assessment

- St. David's Cathedral: Dynamic assessment and rehabilitation design, Austin, Texas
- Girona Cathedral Cloister (eleventh century): Dynamic assessment, Girona, Spain
- Laken Cathedral: Dynamic assessment of facade, Brussels, Belgium
- Manlleu Bell Tower: Dynamic assessment and retrofit design, Spain

Bridge Engineering

- Hays St. Bridge: Rehabilitation project revision, San Antonio, Texas
- Bonaterra and Arellano Prestressed Concrete Highway Bridges: Full design, Aguascalientes, Mexico

Peer Review

- St. Edward's University New Residence: Peer review, Austin, Texas

PROFESSIONAL AFFILIATIONS

Association for Preservation Technology International (APTI)