Juan Carlos Araiza, Ph.D., PE., Technical Services Division Lead

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Professional Summary:

Dr. Araiza has over twenty-five years of design, construction, research, and technical leadership experience related to the evaluation of existing structures, forensic engineering, and expert witness services. He also has extensive experience with structural dynamics and advanced finite element modeling applied to failure analysis. He has led the forensic investigation of some of the most significant structural collapses in the U.S. in the last few years, including the 2018 collapse of the FIU Bridge in Miami, the 2019 collapse of the Hard Rock Hotel in New Orleans, and the 2021 collapse of the Surfside Condominium in Florida.

Dr. Araiza holds a Ph.D. in Structural Engineering. His experience includes failure investigations of a wide variety of buildings, transportation, water, and power facilities in the United States, South America, Europe, Middle East, and Asia. He currently chairs the Steering Committee (2022-2024) of the ASCE Forensic Engineering Division. He is a registered Professional Engineer in the US States of Texas, Florida, California, Maryland, Arkansas, and in Mexico.

As leader of EFI Global's Technical Services Division, Dr. Araiza will work closely with our practice leaders and technical experts to support continued growth, foster cross-disciplinary collaboration, expand global opportunities, and build on the strong foundation established across these highly respected service lines.

Areas of Expertise:

- Forensic Engineering
- Structural Failure Analysis
- Structural Analysis/Finite Element Analysis
- Non-destructive Testing and Structural Health Monitoring
- Leadership on Consulting Engineering Services

Licenses and Certifications:

Professional Engineer, Texas, #110876
Professional Engineer, Florida, #79944
Professional Engineer, California, #C80119
Professional Engineer, Arkansas, #17973
Professional Engineer, Maryland, #51768
Registered Engineer in Mexico, #2560494 (Civil Engineering)
NCEES Record holder

Relevant Project Experience:

Infrastructure and Transportation

- Baltimore Bridge Collapse, 2024. Lead Forensic Engineer for Property Claim on behalf of Carrier.

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- FIU Bridge Collapse Investigation, Miami, FL. Lead Forensic Engineer for Builders Risk Insurer.
- Pensacola Bay Bridge collapse, Pensacola FL. Lead Forensic Engineer for Builders Risk Insurers. Market Loss.
- Round Butte Dam, Jefferson County, OR: Vertical flow conduit collapse investigation.
- Mokelumne Aqueducts, Oakland, CA: Investigation of seismic isolator failures.
- Sacramento Region Water Treatment Plant, Elk Grove, CA: Digester No. 5 structural failure investigation.
- AMTRAK Sacramento Valley Station, CA: Forensic investigation of platform excessive cracking.
- Early-Age concrete bridge deck cracking investigation for the California Department of Transportation, statewide, CA.
- Guy West Suspension Bridge over the American River, Sacramento, CA: Condition assessment.
- Devil's Slide Tunnel, Pacifica, CA: Panel support design for tunnel liner.
- Muscatine Municipal Airport, IA: Concrete assessment and recommendations for airfield pavement preservation.
- Caldecott Tunnel, CA: Assessment of concrete consolidation issues, concrete liner.
- Tocumen Airport expansion, Panama, Panama: Alkali-Silica reaction evaluation in concrete.

Buildings and Stadiums

- Surfside Condominium, Florida. Led the structural forensic investigation on behalf of insurance carrier.
- Las Vegas Stadium – Raiders NFL Venue. Lead Forensic Engineer for Builders Risk Insurers. Market Loss.
- Hard Rock Hotel Collapse – New Orleans, LA. Forensic Investigation Lead.
- Capital One Tower – Lake Charles, LA. Post-hurricane structural assessment.
- Merdeka 118 Tower, Kuala Lumpur, Malaysia. Lead Forensic Engineer. Foundation Investigation.
- MGM National Harbor, MD, Parking Garage collapse investigation.
- Hard Rock Hotel, Palm Springs, CA, Condition Assessment and Retrofit Design for owner.
- Inter-American Development Bank, Port-au-Prince, Haiti: Post-earthquake evaluation of bank facilities.
- Post-Earthquake Assessment of multiple industrial facilities in Mexico City after the 2017 EQ.
- Post-Hurricane Assessment of multiple Industrial facilities in Houston, TX after Hurricane Harvey, 2017.
- BahaMar Casino and Resort, Nassau, The Bahamas. Structural consulting and NDT for GC China Construction.
- Washington Monument, Washington D.C.: Finite element analysis for seismic retrofit after 2011 Earthquake.
- Alcatraz Warden House, San Francisco, CA: Vibration monitoring during construction activities.

Energy and Power Generation

- NOOR Energy 1 Solar Plant Dubai, UAE. Molten Salt loss-related to 2024 floods. Lead Forensic Engineer for Insurance Market.

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- Crescent Dunes Solar Plant, Tonopah, NV. Structural health monitoring of concentration tower.
- Moda Midsteream, TX. Vessel Allision Investigation. Lead Forensic Engineer for Market.
- ONEOK, Oklahoma. Cause investigation 2022 Fire. Lead Forensic Engineer for Market.
- Freeport LNG Facility, TX. Cause Investigation. 2022 Explosion. Lead Forensic Engineer for Insurance Market.
- Valero Refinery, Houston, TX: Evaluation of cracking issues in sulfur recovery tank.
- DeCordova Power Plant. Granbury, TX. Structural assessment of existing power-generation infrastructure.
- Cameron LNG Facility, LA. Hurricane Laura 2020 damage investigation. Lead Forensic Engineer for Insurance Market.
- IMTT Liquid Storage Terminal, LA. Condition assessment after Hurricane Laura.

Professional Experience:

EFI Global, Inc., Technical Services Division Lead, 2026 – Present
Senior Vice President – Large/Complex Loss, 2020 -- 2026
DeSimone Consulting Engineers, Principal and Forensic Engineering Practice Leader, 2017 – 2019
University of Texas at Austin, Invited Lecturer, 2013 – Present
CTLGroup, Principal Engineer and Vice President, 2013 – 2016
Wiss, Janney, Elstner Associates, Inc., Project Manager and Senior Associate, 2009 – 2013
Sparks Engineering Inc., Senior Consultant, 2007 – 2009
University de Colima-Mexico, Professor, 2003 – 2007
InPat Consulting - Mexico, Principal, 2003 – 2007
Barcelona Tech – Spain, Research Fellow Construction Engineering Dept., 1998 – 2003
Consorcio Hogar, S.A. – Mexico, Structural Engineer, 1998
Ingenieros Civiles Consultores, Associate Bridge/Transportation Engineer -. Mexico, 1997

Education:

Ph.D. Structural Engineering – European Doctorate Mention, Barcelona Tech, Spain, 2003.
B.Sc., Civil Engineering – Honors, Universidad Autónoma de Aguascalientes, Mexico, 1996

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