

**ENGINEERING SEMINAR**

# Advances of FRP Composites In Transportation

## Abstract

Corrosion is a problem affecting the service life of Infrastructure in the United States. The deterioration of bridges and structures attributable to the corrosion of steel has had a significant impact, particularly, on Transportation. Corrosion has cost the state and local agencies billions of dollars to repair, replace and maintain the roadway structures. Innovative and emerging technologies using Fiber Reinforced Polymer (FRP) Composite materials, commonly used for national defense, aerospace, and in boating and automotive industries, are gaining acceptance in Transportation and Civil applications. The non-Corrosive properties of FRP Composites make these materials an ideal alternative to steel that provides the State DOTs with solutions to corrosion problems caused by deicing material, salt, and chlorides.

FRP composites are used in the fabrication of bridge and structural elements, such of girders, piles, reinforcing bars, and drainage pipes. Several State DOTs have institutionalized the use of FRP Composites into their routine practice.

## Jamal Elkaissi, PE

### Structural Engineer

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Jamal Elkaissi worked for the Colorado Department Of Transportation (CDOT) for 25 years in Bridge Design and Construction. He eventually became a Team Leader in charge of all the bridges in the Denver Metropolitan area. He has a BSCE in Civil Engineering, University Of Colorado, 1980, and an MS in Structural Engineering, University Of Colorado, 1982.

Jamal has been working for the Federal Highway Administration (FHWA) for 10 years. He specializes in precast and prestressed concrete structures. He is an FHWA SME in the use of Fiber Reinforced Polymer Composite, FHWA Lead in Bridge Lateral Slide (EDC2), FHWA Co-Lead in the deployment of the use of Ultra High Performance Concrete in Precast Connections (EDC3,4), FHWA Technical Lead on Shrp2-R04/Bridge Design for Rapid Renewa. Jamal is a member of the AASHTO T-6 Fiber Reinforced Polymer Committee and of the TRB AFF80 Structural Fiber Reinforced Polymers Committee.

**Date: November 13, 2017 Time: 5:00 p.m. – 6:30 pm, EST**

**Location: 200G Baldy Hall, North Campus, University at Buffalo**