



Goal of Workshop

Defining a path to broadly implement FRP bar for safe, economical and resilient concrete structures. Non-corrosive FRP rebars are an effective alternative to steel reinforced concrete, with a market estimated at \$600M (2017). This workshop is geared for stakeholders involved in concrete construction, including owners, manufactures, installers, distributors, engineers, architects, and state and city/local officials. The workshop aims to define a path to fully implement FRP bar for concrete structures.

Date: January 18-19th, 2019

Location: Rosen PLAZA® Hotel
9700 International Drive
Orlando, FL 32819
Ph. 407-996-9840

Registration: Registration includes refreshments, coffee breaks, networking, dinner and all technical content discussed during the workshop and produces as a result of the workshop in electronic form. Registration rates (excluding process fees) are as follows. Registration fees are waived for full time students enrolled in an accredited institution.

➤ EARLY General Registration (Until December 14, 2018)	\$248.00
➤ EARLY DOT Official Registration (Until December 14, 2018)	\$38.00
➤ Exhibition Table (includes 3 General Registrations)	\$998.00
➤ General Registration (After December 14, 2018)	\$298.00
➤ DOT Official Registration (After December 14, 2018)	\$48.00

Agenda

DAY 1: Friday, January 18th - Education & Outreach

1:00 - 1:15 pm Welcome Remarks: Introduction of topics and attendees

1:15 - 3:00 pm Session 1: Owner's Perspective on the Use of FRP Bars

Topics of Interest:

- a. Accelerated (Bridge) Construction advantages with FRP – Durability is not a concern; is coupling a challenge that needs solving?
- b. LCC/LCA for justification of GFRP use
- c. What are the primary drivers for DOT's & other owners to fully implement GFRP rebar?
- d. In projects where GFRP is not specified how would an owner make decisions about comparing these solutions with conventional materials (e.g., steel reinforcement)
- e. 'Toolkit' for owners when deciding to specify or select GFRP over other non-corrosive reinforcements

3:00 - 3:20 pm Refreshment Break and Icebreaker

3:20 - 5:20 pm Session 2: GFRP Bar Manufacturer's Installer's, & Supplier's Perspective

Topics of Interest:

- a. Distribution model for bent bars and custom lengths – manufacturer versus fabricator
- b. Uniform bar surface enhancement and bond properties – sand coating or deformed?
- c. Bar bend quality/appearance
- d. Methods of estimating for projects with GFRP rebar (rule of thumb, inclusion in DOT cost estimate tables)
- e. Cost estimation – development of estimation tools

5:30 – 6:30 pm Social Reception (Rosen PLAZA® Hotel)

7:00 to 10:00 pm Dinner & Discussion (Rosen PLAZA® Hotel)

DAY 2: Saturday 19th – Advancement of GFRP-RC

8.00 – 8.15 am: Lessons learned Day 1 and summary.

8:15 - 10:00 am Session 3: Codes, Standards & Specifications Perspective on the use of GFRP Bars

Topics of Interest:

- a. ASTM D7957 Specifications gaps: Stiffness minimum value; Mechanical durability: fatigue (bar and bond) and creep; Chemical durability: strength, durability of bond; Inclusion of other resins and fibers.
- b. UV degradation on site (storage and phased construction) – is it really a problem?
- c. 'Toolkit' for DOTs/owners to adopt GFRP-RC
- d. QC standardization by manufacturers: What is critical to measure during production? What internal QC tests are needed, is there a need to specify and standardize? Lot testing turn-around time? How to 'protect' industry from defective bars (both immediate properties as well as durability) can't tell apart?

10:00 - 10:20 am Refreshment Break

10:20 - 12:00 pm Session 4: Ongoing Research and New Applications

Topics of Interest:

- a. Resiliency of new structure designs considering functionality after major event.
- b. Bespoke Reinforcing
- c. Creep rupture and cyclic fatigue
- d. Concrete made from seawater/brine/contaminated aggregate: opportunity for all stakeholders
- e. QC testing for manufacturers and laboratories

12:00 - 12:30 pm Session 5: Closeout and Summary of Whitepaper

During the closeout discussion a vote of confidence on the issues discussed and agreed on will be conducted. Scribes will be present at each session discussion to record issues of concern, agreement and needs raised by attendees for advancing the safe and economical deployment of GFRP reinforced concrete. These notes will be summarized at the conclusion for preparation of a whitepaper. The whitepaper is expected to be completed by March 31st for distribution to the attendees as a record of the workshop and voluntary action plan preceding the 3rd International Workshop in 2020/2021.

Topics for Project Case Studies on GFRP-RC/PC Structural Applications

1,000-word maximum paper length. A template for the paper will be provided for accepted abstracts. Papers will be curated and provided to workshop participants in PDF format prior to the workshop.

Submit 300-word Abstracts for consideration to:

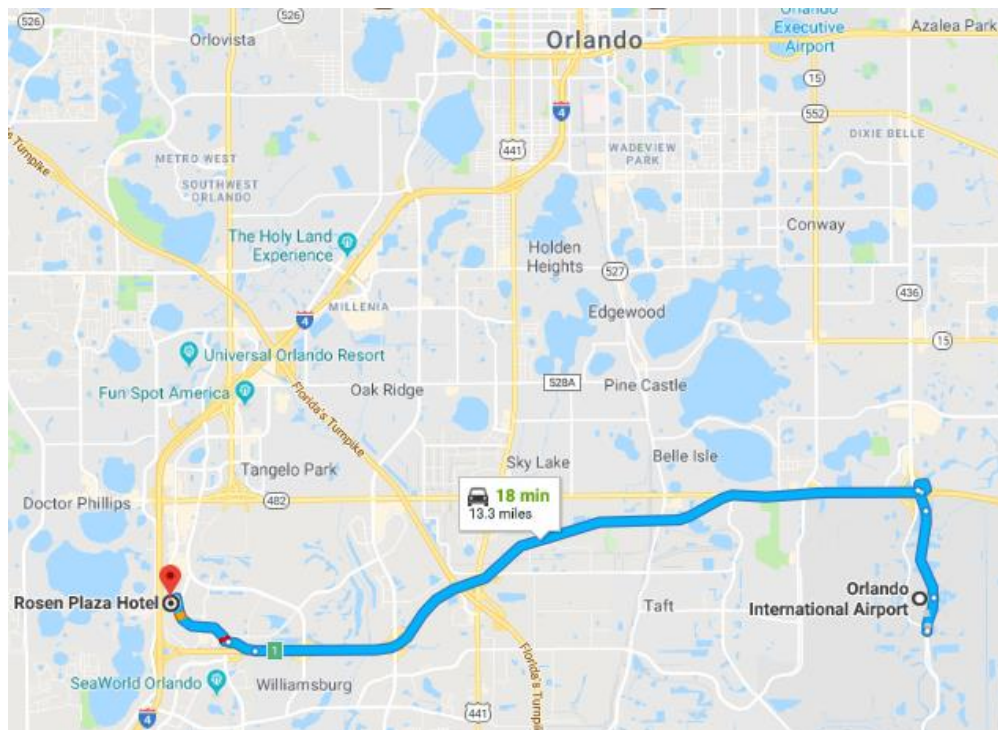
<https://iw-gfrpcs2registration.azurewebsites.net/>

The organizers also recommended developing a two-page Fast-Facts sheet as an Attachment to the Paper or as an alternative for any project case-study. See the following website for the suggested format of the Project Fact-Facts sheet:

<http://www.fdot.gov/structures/innovation/FRP.shtm#link9>

1. Bridges - Superstructure
2. Bridges - Substructure
3. Concrete Pavement - CRCP
4. Buildings - Balconies
5. Buildings - Fire resistance
6. Magnetic sensitivity - Tolling & MRI structures, etc.
7. Stray current mitigation - Electrified rail & Utility structures.
8. Tunneling - Road, rail or transit
9. Tunneling - Water supply & wastewater
10. Retaining walls & Soil anchoring
11. Seawalls & Marine Structures

Maps to Rosen Plaza® Hotel



Google ©: [Map link](#) from Orlando International Airport to [Rosen Plaza Hotel](#) and [Hyatt Regency Orlando](#)

Hotel Room Reservation Details



- Reservations can be made by each attendee directly to the [Rosen PLAZA® Hotel](#) by calling our Reservation Department at **407-996-9700** or by calling toll-free at **800-627-8258**.
- Please request the group rate for the **University of Miami Meeting**.
- Room rate: **\$139.00 S/D + tax**.
- The [Rosen PLAZA® Hotel](#) requires that all reservations are secured by a major credit card, which will be used as a guarantee only, one night's room and tax deposit is required to secure the reservation. In the absence of a credit card, reservations require a cash deposit equal to one night's room and tax.
- Guest Room Reservations must be made by **Tuesday, December 18, 2018**, for the blocked room rate.

