

**Welcome to Monthly Webinar on  
Accelerated Bridge Construction**

# **Precast Concrete Culvert Standards for WSDOT Fish Passage Projects**

**Sponsored by**

*Accelerated Bridge Construction University Transportation Center  
(ABC-UTC) at Florida International University*



**Website: [abc-utc.fiu.edu](http://abc-utc.fiu.edu)**

**Email: [abc@fiu.edu](mailto:abc@fiu.edu)**

**March 17, 2022 – 1:00 p.m. to 2:15 p.m. Eastern**



# Today's Monthly Webinar



**ABC Announcements**

(10 minutes)

**Featured Presentation**

(35 minutes)

## **Precast Concrete Culvert Standards for WSDOT Fish Passage Projects**

by

**Mark Gaines, P.E.**, State Bridge Engineer and Development Division Director,  
Washington State Department of Transportation; and **Bijan Khaleghi, Ph.D., P.E.,  
S.E.**, State Bridge Design Engineer, Bridge & Structures Office, WSDOT

**Question and Answer**

(15+ minutes)

**Please post your questions in the question box**

2022 International Accelerated Bridge Construction Conference  
Fully In-Person Conference

December 7-9, 2022, Miami FL

**CALL FOR ABSTRACTS:  
EXTENDED DEADLINE - APRIL 12, 2022**

**CALL FOR AWARDS:  
DEADLINE – JUNE 30, 2022**





# Four Pre-Conference Workshops, each 4 hours in length

- 1- Steel Bridge Design Workshop
- 2- Prestressed Concrete Bridge Design Workshop
- 3- FRP Composites Bridge Design Workshop
- 4- UHPC Workshop



# Example: Steel Bridge Design Workshop

1- Analysis (Atorod Azizinamini, Ph.D., P.E.)

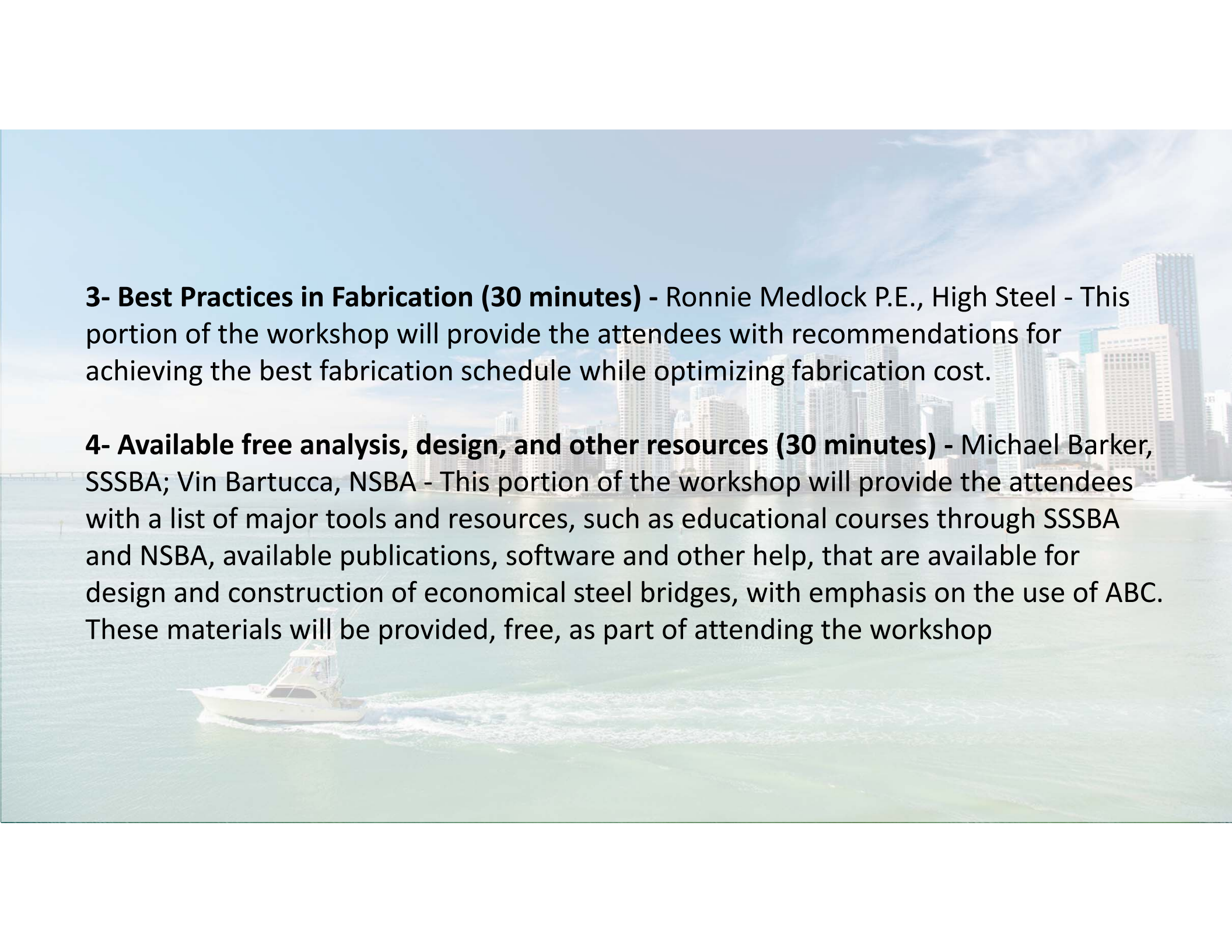
This portion of the workshop will provide a brief summary of AASHTO LRFD Bridge Design Specifications related to:

- a. Loads and load combinations
- b. Distributions factors
- c. Analysis tools and approaches to obtain shear and moment envelope moment diagrams

## 2- Design (Atorod Azizinamini, Ph.D., P.E.)

The following topics related to steel bridges and included in the AASHTO LRFD Bridge Design Specifications will be covered, by briefly explaining their background, intention and use. Their use will be demonstrated using short examples. These short examples will be part of a complete design of a multi-span steel bridge, a copy of which will be provided to attendees.

- a. Constructability limit state
- b. Service limit state
- c. Strength limit state
  - i. Positive section design considerations
  - ii. Negative section design considerations
- d. Estimating fl term
- e. Role of cross frames in steel bridges
- f. Brief overview of bridge deck design using empirical approach as stated in Chapter 9 of AASHTO LRFD Bridge Design Specifications
- g. Design for shear
- h. Fatigue and fracture considerations
- i. Stability during construction
- j. Introduction to steel connection design with emphasis on steel gusset plate rating in existing steel truss bridges

The background of the slide features a scenic view of a city skyline, likely Miami, with several tall skyscrapers under a clear blue sky. In the foreground, a white speedboat is moving across the water, leaving a white wake. The overall scene is bright and clear.

**3- Best Practices in Fabrication (30 minutes)** - Ronnie Medlock P.E., High Steel - This portion of the workshop will provide the attendees with recommendations for achieving the best fabrication schedule while optimizing fabrication cost.

**4- Available free analysis, design, and other resources (30 minutes)** - Michael Barker, SSSBA; Vin Bartucca, NSBA - This portion of the workshop will provide the attendees with a list of major tools and resources, such as educational courses through SSSBA and NSBA, available publications, software and other help, that are available for design and construction of economical steel bridges, with emphasis on the use of ABC. These materials will be provided, free, as part of attending the workshop

2022 International Accelerated Bridge Construction Conference  
Fully In-Person Conference  
December 7-9, 2022, Miami FL

# Opportunities To Exhibit



An aerial photograph of a city skyline, likely Miami, Florida, viewed from across a body of water. The skyline consists of numerous high-rise buildings of varying heights and colors, including white, grey, and blue. The water is a vibrant turquoise color. In the foreground, a white motorboat is moving across the water, leaving a white wake. The sky is a clear, bright blue with some light, wispy clouds. The overall scene is bright and sunny.

**Hope to see you in person  
in December in Miami, FL**

**Visit <https://abc-utc.fiu.edu/conference/>  
for detailed information and to submit your  
one-page abstract online**

# Upcoming Events

## **ASBI Monthly Webinar:**

**“HART Airport Guideway and Stations Project”**

Wednesday, March 30, 2022 – 12:00-1:00 PM Central

**“Extradosed Fin-Back Design and Progressive Span-by-Span Erection for the Selmon West Extension”**

Wednesday, April 27, 2022 – 12:00-1:00 PM Central

PDH certificates will be issued to attendees

## **2022 ASBI Grouting Certification Training**

Monday, April 11, 2022

In-person at the Commons Center, J.J. Pickle Research Campus, Austin, TX

*This will be the only ASBI Grouting Certification Training event held in 2022!*

For more information: <https://www.asbi-assoc.org/>

# Upcoming Events

## **AASHTO / NSBA Steel Bridge Collaboration – Spring 2022 Meeting**

May 3-5, 2022

St. Louis, Missouri

For more information: <https://www.aisc.org/CollaborationStandards>



# Quarterly Research Seminar



Friday, April 29, 2022 – 1:00-2:15 p.m. EDT

## Featured Project

# Application of Methacrylate Polymers for Seismic ABC Connections

by

**Mohamed Moustafa, Ph.D., P.E.**, Principal Investigator;  
**Mahmoud Aboukifa** and **Mohamed Abokifa**, Graduate Students

**ABC-UTC / University of Nevada-Reno**

Registration to open soon at: <https://abc-utc.fiu.edu/>

# Next Monthly Webinar



Thursday, April 21, 2022 – 1:00-2:15 p.m. EDT

## Featured Presentation

# North Carolina's Rodanthe "Jug Handle" Bridge: Precast Bridge Elements and Innovative Construction Approach

by

**David Peterson, P.E.**, Director, Structures, RK&K; **Jeremy Keene, P.E.**, Project Manager, Structures, RK&K; and **Sean O'Neal**, Preconstruction Manager, Flatiron

**Mark your Calendars!**

# Today's Monthly Webinar



**Featured Presentation:**

## **Precast Concrete Culvert Standards for WSDOT Fish Passage Projects**

by

**Mark Gaines, P.E.**, State Bridge Engineer and Development Division Director, Washington State Department of Transportation; and **Bijan Khaleghi, Ph.D., P.E., S.E.**, State Bridge Design Engineer, Bridge & Structures Office, WSDOT

**Please post your questions in the question box**