

**Welcome to the Quarterly Research Seminar on
Innovative Bridge Technologies / Accelerated Bridge Construction**

**Large-Scale Implementation of Semi-Proprietary UHPC
with Virgin and Recycled Fiber for
Full Precast Bridge Columns**

Sponsored by

*Innovative Bridge Technologies / Accelerated Bridge Construction - University Transportation Center
(IBT/ABC-UTC) at Florida International University*



Website: abc-utc.fiu.edu

Email: abc@fiu.edu

October 25, 2024 – 1:00 p.m. to 2:15 p.m. Eastern



Today's Quarterly Research Seminar

IBT/ABC Announcements

(10 minutes)

Featured Presentation

(35-40 minutes)

Large-Scale Implementation of Semi-Proprietary UHPC with Virgin and Recycled Fiber for Full Precast Bridge Columns

by

Allan Joseph Romero, Ph.D., Graduate Bridge Engineer, TyLin International;
Mohamed Moustafa, Ph.D., P.E. Principal Investigator and Associate Professor of Civil and Urban
Engineering at New York University Abu Dhabi
University of Nevada, Reno

Question and Answer Session

(15+ minutes)

Please post your questions in the question box

2024 World Bridge Engineering Conference

(Formerly International ABC Conference)

Hilton Hotel, December 11, 12 and 13, 2024, Miami FL



Register Today

Use link below to register today

<https://abc-utc.fiu.edu/registration/>



Conference Sponsor: U.S. Department of Transportation through IBT/ABC-UTC

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Keynote Speakers



Michael Knott, P.E.
Senior Vice President
Emeritus, with
Moffatt & Nichol

PRESENTATION TITLE:
*What Bridge Designers Should Know
About Ships Colliding with Bridges
and How to Prevent Collapse*



Changsu Shim, Ph.D.
Professor, Chung-Ang
University,
South Korea

PRESENTATION TITLE:
*Digitalized Highway Bridge
Construction Using Smart
Technologies in Korea*



**Eugen Brühwiler,
Prof. em. Ph.D., P.E.**
Swiss Federal Institute
of Technology (EPFL)
Lausanne, Switzerland

PRESENTATION TITLE:
*Current Developments in Europe in
Rescuing Existing Bridges with UHPC*



**Atorod Azizinamini, Ph.D.,
P.E., Professor**

Director, Infrastructure
Research and Innovation, FIU
PRESENTATION TITLE:
3D Printing with Concrete



**Mark A. Finlayson,
Ph.D., Professor**

Computing and
Information Science, FIU
PRESENTATION TITLE:
*What is Artificial
Intelligence, and Why Should
Bridge Engineers Care?*



**Benjamin A. Graybeal,
Ph.D, P.E.**

U.S. Federal Highway
Administration
PRESENTATION TITLE:
*Solutions that Move
the Needle*



John R. Hillman, P.E., S.E.

Structural Engineering
Director, Kiewit Engineering
Group, Inc
PRESENTATION TITLE:
*Circular Evolution of Bridge
Project Delivery*



Frank Jalinoos

Coating and Corrosion
Laboratory, (FHWA)
Turner-Fairbanks Highway
Research Center
PRESENTATION TITLE:
Foundation Reuse in ABC Projects



Danielle Whitlow, Ph.D, P.E.

U.S. Army Engineer Research and
Development Center (ERDC)
PRESENTATION TITLE:
*Adapt and Overcome: The
Challenges to Military Engineering*

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Use link below to see Conference Program

<https://abc-utc.fiu.edu/conference/program/>



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Conference Program at a Glance

Session Topic	Accelerated Bridge Construction	Innovative Bridge Concepts	Advances in Bridge Design	Best Practices in Bridge Preservation	UHPC Applications in Bridge Engineering	Upgrade and Rehabilitation of Existing Bridges
Number of 30-Minute Long Technical Presentations	27	19	12	7	12	8
Session Topic	Structural Health Monitoring	AI and Digital Twins	Bridge Asset Management Systems	Bridge Engineering from Military Perspective and UHPC-Based Solutions	DOT Experiences	Case Studies
Number of Technical Presentations	12	8	7	8	8	7

- Nine Keynote talks
- *140, thirty minutes long Technical Presentations*
- Free Workshop - Shotcrete with UHPC

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Thursday Evening – Free workshop on Shotcrete with UHPC

Don't miss the opportunity to learn about the most exciting application of UHPC, aimed at Retrofit/Upgrade of deficient bridge elements and more.



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Wednesday Evening- Reception and Entertainment



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Opportunities are available to exhibit your services and showcase your company. Use link below to reserve your exhibit booth. Space is limited and will be reserved, based on first come first reserved

<https://abc-utc.fiu.edu/conference/exhibitors/>

Reserve your hotel room at special conference rate while available. Use link below to reserve your hotel room now

<https://abc-utc.fiu.edu/conference/housing/>

Travel scholarships are available for U.S. State and County Bridge Engineers, to attend the conference. Use link below to apply

<https://abc-utc.fiu.edu/conference/travel-scholarships/>



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2024 Award Categories

“Innovative Bridge Owner Engineer of the Year”

“Innovative Bridge Consultant Engineer of the Year”

“Innovative Bridge Contractor of the Year”

“Innovative Bridge Project of the Year” – three project categories:

- Less Than \$10M (Small)
- Between \$10M and \$100M (Large)
- Over \$100M (Mega)

The call for awards deadline is November 8, 2024, and all entries are due by 11:59 pm EST.

<https://abc-utc.fiu.edu/conference/call-for-awards-2/>

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Visit Conference webpage, using link below to learn more.

<https://abc-utc.fiu.edu/conference/>

The logo consists of the letters 'ABC' stacked above 'UTC' stacked above 'IBT', all in white on a blue square background.

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Next Monthly Webinar



Thursday, November 21, 2024 – 1:00-2:15 p.m. Eastern
(Certificate of Attendance provided)

Featured Presentation:

Observed Long-Term Performance of Prefabricated Deck Level Connections

by

Michael P. Culmo, P.E.
Chief Bridge Engineer, CHA Solutions, Inc.

Mark Your Calendar!

Next Quarterly Research Seminar

Friday, January 31, 2025 – 1:00-2:15 p.m. Eastern
(Certificate of Attendance provided)

Featured Project:

Prestress Losses in UHPC and Hybrid Precast, Prestressed Bridge Girders

by

Royce W. Floyd, Ph.D., P.E., S.E., Principal Investigator, Associate Professor,
School of Civil Engineering and Environmental Science,
The University of Oklahoma

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