



# 4<sup>th</sup> International

Interactive Symposium on UHPC

Des Moines, Iowa

June 14-17, 2026



# WELCOME

Colleagues and Friends,

On behalf of the Symposium Organizing Committee, we are excited to welcome all of you to the Fourth International Interactive Symposium on Ultra-High Performance Concrete (UHPC). Three years after our third UHPC symposium in Wilmington, Delaware, and a decade after the inaugural event in Des Moines, Iowa, we are thrilled to reconvene the international UHPC community. Since the early days of this technology, UHPC has proven that, with creativity and sound practice, one can deliver solutions that address the demands of the modern world. Clearly, UHPC has a place in any sector that is willing to embrace innovative solutions or adopt new methods to overcome routine design, construction, and repair challenges.

UHPC is a major breakthrough in concrete technology. With its exceptional mechanical performance, degradation resistance, and adaptability, this material has captivated researchers, designers, architects, practitioners, students, funding agencies, professional societies, contractors, and material suppliers alike. Ongoing efforts to investigate and quantify UHPC performance continue to yield compelling, creative solutions that have been shown to be cost-effective, particularly when evaluated on a life-cycle cost basis. Beyond its technical merits, UHPC serves as a unifying force, bringing together people, disciplines, and societies, to advance safety, health, and quality of life on a global scale. Ultimately, it provides inspiring, resilient, and forward-looking solutions to both our current and future challenges.

The symposium is made possible by the dedicated professionals serving on our committees, notably the International Scientific Advisory Committee, the Interactive Panel Committee, the Field Tour Committee, the Innovation Award Committee, and the Student Competition Committee. Their hard work has shaped an interactive symposium experience that offers a premier platform for sharing knowledge about materials, design, and real-world applications. This year, we are also excited to explore emerging frontiers, including additive manufacturing, artificial intelligence, and unique composite materials.

Through this symposium, we envision an expansion and strengthening of the global network of UHPC experts and an advancement of UHPC knowledge and its practical use. We welcome your active participation and look forward to making this a truly successful and memorable event!

Yours sincerely,

Sri Sritharan, PhD, FACI, FPCI  
Symposium Co-Chair  
Iowa State University

Benjamin Graybeal, PhD, PE  
Symposium Co-Chair  
Federal Highway Administration

# Fourth International Interactive Symposium on UHPC

— Sunday, June 14, 2026 —

Welcome Reception (5:00 to 7:00 pm)

— Monday, June 15, 2026 —

Opening Ceremony and Plenary Session (8:30 to 10:00 am)

Room	10:15 am - 12:00 pm		1:30 pm - 3:15 pm		3:30 - 5:15 pm
Mississippi/Missouri	PANEL: Spark Session - Innovative Ideas & Hot Button Issues	Networking Break	PANEL: Precast and Prefabricated UHPC	Networking Break	PANEL: Career Discussions for Young Professionals
Salon F	Session: Structural Behavior and Design		Session: Structural Composites and Rehabilitation		Session: Material Behavior, Design, and Quality Control
Salon G	Session: Infrastructure Repair and Rehabilitation		Session: Mechanical Characterization and Testing Standards		Session: Infrastructure Case Studies and Repair
Salon H	Session: Material Behavior Characterization		Session: Durability and Long-Term Material Behavior		Session: Structural Behavior and Design
Platte	Session: Innovations in 3D Printing and Construction		Session: Column Behavior and Repair		Session: AI and Advanced Simulation

Reception and Student Poster Presentations (6:00 to 8:00 pm)

— Tuesday, June 16, 2026 – Interactive Tour Day! —

Tour	All tours include visit to Iowa State University for UHPC Shotcrete and Architectural Panels
W	Wapello County Bridges – UHPC I-Girder, Waffle Deck, and Overlay
B	Buchanan County Bridges – UHPC Pi-Girder and Overlay
L	UHPC Mixing Demonstration, Laboratory Tour, and Student Competition

UHPC Innovation Awards Dinner (6:30 to 9:00 pm)

— Wednesday, June 17, 2026 —

Room	8:00 - 9:45 am		10:15 am - 12:00 pm		1:15 - 3:00 pm		3:15 - 5:00 pm
Mississippi/Missouri	PANEL: DOT Experiences, Challenges, & Opportunities	Networking Break	PANEL: Architectural & Aesthetic UHPC	Networking Break	Session: Durability and Long-Term Material Behavior	Networking Break	Session: Durability and Long-Term Behavior
Salon F	Session: Mechanical Characterization		Session: Structural Design		Session: Bridge Strengthening and Repair		Session: Innovations in Mixture Design
Salon G	Session: Fabrication, Construction, & Case Studies		Session: Mixture Design and Implementation		Session: Architectural Applications		Session: Sustainability
Salon H	Session: Machine Learning and Artificial Intelligence		Session: Field Projects, Case Studies, and Repair		Session: Structural Behavior and Design		Session: Structural Behavior and Design
Platte	Session: Structural Behavior and Design		Session: Structural Behavior		Session: Mixture Design and Mechanical Performance		Session: Field Projects, Case Studies, and Repair

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# AGENDA

## Sunday, June 14, 2026

5:00pm-7:00pm      **Welcome Reception and Registration**      *Hotel Atrium*

## Monday, June 15, 2026

6:00am-8:15am      **Breakfast**      *Hotel Breakfast Area*

8:30am-10:00am      **Opening Ceremony and Plenary Session**      *Embassy Ballroom  
(Salon A - E)*

8:30am-8:50am      **Welcome and Opening of Symposium**  
Sri Sritharan, Symposium Co-Chair, Iowa State University  
  
W. Samuel Easterling, James L. and Katherine S. Melsa Dean of Engineering,  
Iowa State University  
  
Curtis Carter, Bridges and Structures Bureau Director, Iowa Department of  
Transportation

8:50am-9:30am      **Plenary Session**  
  
**Introduction**  
Sri Sritharan, Symposium Co-Chair, Iowa State University

**3% of UHPC Service Life Consumed**  
Vic Perry, President, ViConsult Inc.

9:30am-10:00am      **Key Symposium Activities and Expectations**  
Ben Graybeal, Symposium Co-Chair, Federal Highway Administration  
Matthew Bandelt, Associate Professor, New Jersey Institute of Technology  
Dominic Kruszewski, Project Engineer, Parsons  
Dimitrios Kalliontzis, Assistant Professor, University of Houston  
Hannah Tzabari, Lead Product Engineer, SmartUp UHPC  
Zachary Haber, Assistant Professor, University of South Florida

10:15am-12:00pm      **Paper Sessions and Expert Panels -- see next pages for details**

12:00pm-1:15pm      **Lunch Break**      *Embassy Ballroom  
(Salon A - E)*

1:30pm-5:15pm      **Paper Sessions and Expert Panels -- see next pages for details**

6:00pm-8:00pm      **Opening Reception and Student Posters**      *River View Patio*

# MONDAY SESSIONS

# MID-MORNING

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Monday, June 15, 2026	10:15am - 12:00pm	PANEL SESSION [Mississippi/Missouri]	PANEL: Spark Session - Innovative Ideas & Hot Button Issues	George Morcoux (Moderator)
		Structural Behavior and Design [Salon F] Session Chair: Vic Perry	Evaluation of Steel Diaphragms Anchored to UHPC Bearing Stiffeners	Brian Lassy; Alexandra Hain
			Development of UHP-FRC Girder Splice Details for Durable Continuous Precast Bridge Systems	Rishav Pokhrel; Rajat Bashyal; Xuejian Liu; Shih-Ho Chao
			Development and Experimental Investigation of a Novel Deck Panel for Accelerated Bridge Construction Using UHPC Overlay and FRP Stay-in-Place Forms	Mazen Hassan; Amr Ashmawi; Akram Jawdhari
			Design and Application of the Lightweight Steel Inner Core-UHPC Composite Box Girder	Panpan Li; Xudong Shao
		Infrastructure Repair and Rehabilitation [Salon G] Session Chair: Hassan Aoude	Development and Evaluation of a Hybrid-Fiber UHPC-FRCM System for Strengthening Reinforced Concrete Structures	Luca Sorelli; Yazan Abutahnat Abutahnat; Ahmed El Refai
			UHPC Overlays for High-Traffic Urban Bridges: The Walchebrucke Rehabilitation Solution	Daniel Hardegger; Laurent Boiron; Peter Seibert
			Numerical Modeling of Bridge Decks with Thin-Bonded UHPC Overlays	Asher Neitsch; Srishti Banerji
			Numerical Investigation of UHPC Collar in Strengthening Bridge Piers against Vehicle Collision	Chunpeng Qu; Sungmoon Jung; Qian Zhang
			Mitigating Debonding Failures in FRP-Strengthened RC Members Using UHPC Overlays	Hamidul Bari; Akram Jawdhari
		Material Behavior Characterization [Salon H] Session Chair: Sriram Aaleti	UHPC Material Conformance Specifications in the U.S. Highway Sector	Rafic Helou; Benjamin Graybeal
			Comparative Development of P-M Interaction Diagrams for UHPC Columns Using Existing Constitutive Models	Oumaima Awassa; Raafat El-Hacha
			Modeling of Fresh UHPC Non-Newtonian Flow Motions	Dimitrios Kalliontzis; Yousef Abu Amneh; Priyanshu Pokhrel
			Effects of Mixture Sequencing on UHPC	Jedadijah Burroughs; Christopher Moore; Dylan Scott
		Innovations in 3D Printing and Construction [Platte] Session Chair: John Lawler	Permanent UHPC Formwork, in Combination with Sprayable UHPC - A Concept Suitable for 3D Printing	Atorod Azizinamini
			Fluid to Solid Transition Characterization of 3D Printed UHPC for Offshore Wind Foundations	Raul Marrero-Rosa; Elmer Irizarry; Ayesha Ahmed; Ke Yu; Adam Brooks; Gianluca Cusatis; Mohammed Alnaggar
			3D-Printed UHPC for Targeted Concrete Repair: Development and Performance Evaluation	Ping Lyu; Kejin Wang
			Development of Optimized UHPC Mixtures for 3D Printing	Mahyar Ramezani; Malena Serrano Lazo; Carlos Concha Avila; Atorod Azizinamini

# MONDAY SESSIONS

# EARLY AFTERNOON

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Monday, June 15, 2026	1:30pm - 3:15pm	PANEL SESSION [Mississippi/Missouri]	PANEL: Precast and Prefabricated UHPC	JP Binard (Moderator); Esteban Camacho; John Lawler; Philip Loh; Jim Nelson; Rob Pavel
		Structural Composites and Rehabilitation [Salon F] Session Chair: Atorod Azizinamini	Rehabilitation of Steel Gusset Plates using UHPC	Brian Winger; Kevin Zmetra; Chelsie Raleigh; Ryan Cooley; Michael Culmo; Bao Chuong; Andrew Cardinali
			Experimental Study on Fatigue Performance of CLT-UHPC Composite Deck for Bridge Application	Bipul Poudel; Sriram Aaleti
			Experimental Investigation of CLT-UHPC Composite Shear Walls	Kunal Mohinderu; Anupama Kamani; Sriram Aaleti
			Shear strengthening of Pont Champlain Bridge Slabs Using UHP-FRC	Antoine Houdoin ; Jean-Philippe Charron; Mahdi Ben Ftima
			Emergency Girder Repairs with UHPC Save Construction Timeline	Hannah Tzabari; Robert Taylor; Jerome Frecon
		Mechanical Characterization and Testing Standards [Salon G] Session Chair: Raafat El-Hacha	Comparison and Development of Uniaxial Testing Methods for UHPC	Aruna Prasad Madusanka Senapathi; Abheetha Peiris
			Alternative Test Method for QA/QC and Tensile Characterization of UHPC	Zoi Ralli; Sandi Abdelrehim; Stavroula Pantazopoulou
			A Simple Quality Control Test for UHPC Tensile Behavior	Sahith Gali; Rafic Helou; Benjamin Graybeal
			Study on the Effects of Steel Fiber Content and Shape on the Tensile Properties of UHPC	Shunji Aoki; Takayoshi Tomii; Kazunari Sasaki
		Durability and Long-Term Material Behavior [Salon H] Session Chair: Kyle Riding	Post-Installed Concrete Anchors Grouted with UHPC	Dennis Sofr; Zachary Haber
			Effect of Internal Curing on Shrinkage Behavior of UHPC	Mujtaba Ahmadi; Omar Yadak; Royce Floyd
			Early-Age Creep Behavior of UHPC	Tu Luong; Sriram Aaleti
			Effective Bending Strength and Fracture Energy of UHPC	Shahid Ul Islam; Neeraj Kumar; Sahil Bansal
		Column Behavior and Repair [Platte] Session Chair: Dimitrios Kalliontzis	Upgrading Existing Deficient Concrete Columns using UHPC Jacketing	Mahyar Ramezani; Abbas Khodayari; Atorod Azizinamini; Carlos Concha Avila
			Behavior of Concrete Compression Members Confined with UHPC	Mohammed Hedia; George Morcouc
			Modelling the Effectiveness of UHPC Confinement in Columns Using Finite Element Analysis	Nazareth Fonseca Obando; Stavroula Pantazopoulou; Shahria Alam; Rajeev Ruparatna
			Advancing Seismic Retrofit Strategies: A Review of UHPC Applications for Enhanced Bridge Performance and Durability	Zoi Ralli; Georgios Apostolakis; Kevin Mackie; Stavroula Pantazopoulou

3:15pm - 3:30pm

Coffee Break

Hotel Atrium

# MONDAY SESSIONS

# LATE AFTERNOON

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Monday, June 15, 2026	3:30 pm - 5:15pm	PANEL SESSION [Mississippi/Missouri]	PANEL: Young Professionals Event (Interactive Event)	Zach Haber (Moderator); Sriram Aaleti; Natassia Brenkus; Benjamin Graybeal; Vic Pery
		Material Behavior, Design, and Quality Control [Salon F] Session Chair: Kay Wille	Towards Competitive UHPC Precast Elements: Practical Approaches to Quality Control	Esteban Camacho; Juan Ángel Lopez; Hugo Coll
			Investigation on High-Temperature Behavior of UHPLC with Aramid Fibers and Polypropylene Fibers	Xiaodong Cheng; Jun Xia; Theofanis Kreaikas; Luigi Di-Sarno
			A Study on a Non-Destructive Method for Evaluating Fiber Distribution in UHPC Plates on the Magnetic Properties of Steel Fibers	Shimpei Kikuchi; Shinya Watanabe; Katsunori Teshima; Ryohei Moriguchi
			Experimental Study on the Influence of Specimen Shape and Steel Fiber Orientation on the Tensile Properties of UHPC	Masahiro Tomiie; Ryouhei Moriguchi ; Shimpei Kikuchi ; Kenichi Miyanaga
		Infrastructure Case Studies and Repair [Salon G] Session Chair: Philip Loh	Performance of Two-Course Bridge Deck Utilizing UHPC	John Lawler; Le Pham; Mohamed ElBatanouny; Karthik Pattaje; Justin Dahlberg; Jesse Peterson; Drew Witte
			Sprayable UHPC for Retrofit/Upgrade of Existing Deficient Bridge Elements and steel culverts	Malena Serrano Lazo; Carlos Concha Avila; Atorod Azizinamini
			First Complete UHPC Overlay on Cable-Supported Bridge Adds Decades to Deck Service Life	Michael McDonagh; Sam Boukaram; Shekhar Scindia
			Rehabilitation of Delaware's I-95 Corridor with UHPC Overlays	Peter Seibert; John McFadden
		Structural Behavior and Design [Salon H] Session Chair: Clay Naito	UHPC Based Solutions for Accelerated Bridge Construction	Atorod Azizinamini
			A Design Methodology for GFRP Rebar-Reinforced UHP-FRC Columns to Achieve High Durability and Post-Earthquake Functional Recovery	Rishav Pokhrel; Bashyal Bashyal; Shih-Ho Chao
			Shrinkage Induced Stresses and Interfacial Debonding of UHPC Shear Keys	Mana Erfani ; Ali A. Semendary; Dagmar Svecova
			Design of Wave Energy Converter Hulls using UHPC	Philippe Kalmogo; Dimitrios Kalliontzis
			Constructability and Evaluation of Prestress Losses for UHPC Cast-in-Place Formwork Shell Prestressed Girders	Omar Yadak; Royce Floyd; Jeffery Volz
		AI and Advanced Simulation [Platte] Session Chair: Mohammed Alnaggar	Interpretable Machine Learning for UHPC Shear Performance Prediction and Knowledge Discovery	Jin Fan; Xi Hu
			Modeling and Predicting the Ballistic Limit of UHPC Under High-Velocity Impact Using Advanced Simulation Techniques	Zipporah Harlan; Mohammed Alnaggar; Samantha Sabatino
			Artificial Intelligence-powered Technical-Social-Economic-Environmental Design of UHPC	Zhan Jiang; Weina Meng; Yi Bao
			Automated Structural Optimization of UHPC Using a Large Language Model-powered Multi-agent Framework	Jinxin Chen; Yi Bao

# AGENDA

Tuesday, June 16, 2026

6:00am-7:30am

Breakfast

*Hotel Breakfast Area*

7:30am-5:30pm

Interactive Tours

6:30pm-9:00pm

UHPC Innovation Awards Dinner

World Food Prize Hall of Laureates (100 Locust St, Des Moines)



## UHPC Innovation Awards

**Emcee:** Zach Haber, Assistant Professor, University of South Florida

Ultra High-Performance Concrete Innovation Awards recognize creativity and highlight excellence in UHPC design, manufacture, and delivery. The UHPC Building Innovation Award highlights the application of UHPC elements in buildings or assemblies such as columns, façades, partitions, or other architectural systems. The UHPC Infrastructure Innovation Award focuses on UHPC applications that operate primarily in a functional system, such as a bridge, pavement, or security element. A panel of judges has selected a few outstanding projects to receive these prestigious awards. We invite you to join us for dinner at the World Food Prize Building, then congratulate the winners as they are recognized for their accomplishments.

Business casual attire.

**Student Competition Awards (see pg. 16)**

# INTERACTIVE TOURS

On Tuesday, June 16, Symposium attendees can choose one of three technical tours. These tours offer the opportunity to witness in-service UHPC bridges and overlays, and to explore emerging uses of the material.

All tours begin with a visit to Iowa State University for a UHPC shotcrete demonstration. Attendees will also gain first-hand experience with architectural components and building cladding systems. The three tours will then progress as described below.

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## **TOUR W** UHPC Tour “W”: The Bridges of Wapello County

This tour showcases how well UHPC can perform when used in primary bridge elements and as an armoring layer on a bridge deck.

- Mars Hill Road Bridge over Little Soap Creek: This was the first bridge constructed with UHPC in the United States. Opened to traffic 20 years ago, this pretensioned I-girder bridge maintains a superstructure condition rating of “8 - Very Good Condition.”
  - Dahlonga Road Bridge over Little Cedar Creek: This bridge's deck features precast panels made from UHPC using a waffle configuration as well as field-cast UHPC connections. Opened in 2011, it maintains a deck condition rating of “8 - Very Good Condition.”
  - Highway 163 Bridge over Walnut Creek: This bridge received a UHPC overlay in 2020. Carrying more than 5,000 cars per day, this application not only preserves the superstructure, but also delivers a smooth ride on this mainline route east of Des Moines.
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## **TOUR B** UHPC Tour “B”: The Bridges of Buchanan County

Examine a unique UHPC superstructure system and the first UHPC bridge deck overlay installed in the United States.

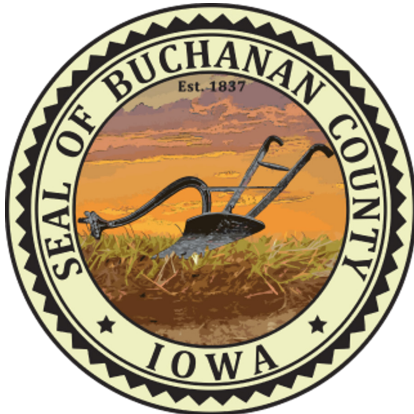
- Jakway Park Bridge: Constructed in 2008, this “pi-girder” bridge uses three double-tee pretensioned girders with bulbs at the base of the legs. This innovative design enabled rapid construction and continues to perform well to this day.
  - Laporte Road Bridge over Mud Creek: This is a three-span continuous concrete slab bridge, the first bridge in the U.S. to receive a UHPC overlay. Installed in 2016 in lieu of a more invasive rehabilitation, the overlay allows this 60-year-old bridge to continue to serve the local community.
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## **TOUR L** UHPC Tour “L”: UHPC Mixing, Research, and Symposium Student Competition

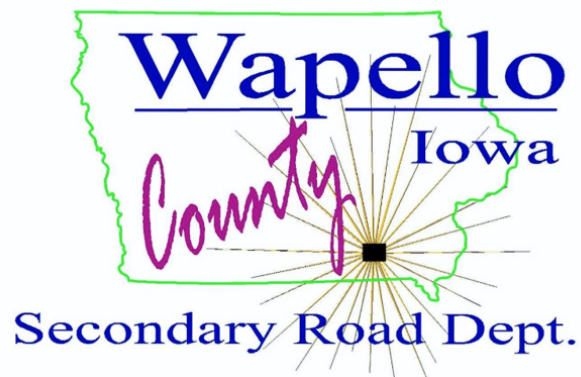
Dive deeper into UHPC research and innovation, including topics such as additive manufacturing.

- Interactive Research Showcase: Join a one-on-one discussion session featuring UHPC large-scale mixing, UHPC 3D printing, AI-enabled UHPC materials and structural design, and UHPC applications in energy systems.
- Demonstrations and Discussion: Observe UHPC mixing, small-scale 3D printing, progress of various UHPC research projects and testing of student competition beams.

# FIELD DAY ACTIVITY SPONSORS



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## AGENDA

Wednesday, June 17, 2026

6:00am-7:50am	Breakfast	<i>Hotel Breakfast Area</i>
8:00am-12:00pm	Paper Sessions and Expert Panels -- see next pages for details	
12:00pm-1:10pm	Lunch Break	<i>Embassy Ballroom (Salon A - E)</i>
1:15pm-5:00pm	Paper Sessions and Expert Panels -- see next pages for details	

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Wednesday, June 17, 2026	8:00am - 9:45am	PANEL SESSION [Mississippi/Missouri]	PANEL: DOT Experiences, Challenges, and Opportunities	Curtis Carter (Moderator); Sri Sritharan (Moderator); Christina Freeman; James Hauber; Jim Scarlata; Matt Wieseler
		Mechanical Characterization [Salon F] Session Chair: Luca Sorelli	Experimental and Statistical Insights into Fiber Pullout Behavior in UHPC	Mandip Dahal; Kay Wille
			Steel Rebar Bond Strength in UHPC: Effects of Clear Cover and Embedment Length	Kevin Falkenberg; Raafat El-Hacha; Oumaima Awassa
			Impact of Boundary Conditions on Compressive Response of UHPC	Neeraj Kumar; Shahid Ul Islam; Sahil Bansal
			Development of UHPC Mix Using Local Materials	Archana Kumari; Tu Luong; Sriram Aaleti; Armen Amirkhanean
			Effects of Specimen Size on Shear Behavior of UHPC	Amr Soliman; William Heard; Brett Williams; Ravi Ranade
		Fabrication, Construction, and Case Studies [Salon G] Session Chair: Rafic Helou	Standard UHPC Infrastructure Applications in Switzerland	Daniel Hardegger; Laurent Boiron; Peter Seibert
			Advancing European Infrastructure through Prefabricated UHPFRC Utility Systems	Christoph Mauderli; Daniel Hardegger; Peter Seibert
			Composite UHPC Decked Beams: Long Spans, Heavy Loads, and Flat Floors	Mostafa Abo El-Khier; Khaled Al-Sakaji; Gregory Lucier; Maher Tadros
		Machine Learning and Artificial Intelligence [Salon H] Session Chair: Mohammed Alnaggar	UHPC Enhances Economy of Innovative Steel Bridge System	Arslan Khan; Abbas Khodayari; Atorod Azizinamini; Mahyar Ramezani
			Predicting the Flexural Capacity of RC Beams Strengthened with UHPC Overlays using ML Techniques	Amr Ashmawi; Akram Jawdhari; Phuong Nguyen
			Impact of Data Bias on Artificial Intelligence-powered Design of UHPC beams	Jinxin Chen; Yi Bao
			Explainable Artificial Intelligence-powered Discovery of Physicochemical Mechanisms for Sustainable Concrete Based on Knowledge Graph and Graph Neural Network	xinyang tong; weina meng; yi bao
		Structural Behavior and Design [Platte] Session Chair: Michael McDonagh	Constructing a Knowledge Base System for UHPC Material Design Using Large Language Models and Retrieval Augmented Generation	Zhan Jiang; Weina Meng; Yi Bao
			An Interactive Inverse-Analysis and Design Tool for UHPC Beams and Columns	Devansh Patel; Chidchanok Pleesudjai; Barzin Mobasher
			UHPC Precast/Prestressed Box Beam for Office Buildings	George Morcou; Antony Kods; Mostafa Aboelkhier
			Flexural Behavior of UHPC Beams with High-Performance Steel Reinforcement	Hassan Aoude; Yang Li
			Shear Performance of a Novel UHPC Pile Splice Connection	Malcolm Ahsan; Jeremy Dodd; Amer Sabsabi; Maged Youssef; Philip Loh
		Effect of Steel Fibers on Behavior of Reinforced all UHPC Columns	Fatemeh Ali Akbari; Ali Javed; Muhammad Faheem Afzal; Atorod Azizinamini	

9:45am - 10:15am

Coffee Break

Hotel Atrium

# WEDNESDAY SESSIONS

# MID-MORNING

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Wednesday, June 17, 2026	10:15am - 12:00pm	PANEL SESSION [Mississippi/Missouri]	PANEL: Architectural & Aesthetic UHPC	Kay Wille (Moderator); Peter Arbour; Craig Heaney; Roy Welch
		Structural Design [Salon F] Session Chair: Vic Perry	Development of Standard Plans for UHPC H-Piles for use in Florida	Christina Freeman; Vickie Young; Ge Wan; Olga Iatsko; Steven Nolan; Rodrigo Herrera
			UHPC Pile Driving Simulation using Impact Pendulum Testing	Ericka Weniger; Zachary Haber; Grey Mullins
			Experimental Evaluation of Skin Friction Behavior in UHPC Pile Foundations	Olga Iatsko; Rodrigo Herrera; Christina Freeman; Travis Stevens; Kelly Shishlova
			Response of UHPC Piles Subjected to Flexural Loads	Christina Freeman; James Dockstader; David Garber; Michael Odelola; Armin Mehrabi
			Behavior of Prestressed UHPC Pipe Piles and Their Application in Offshore Photovoltaic Foundations	Xiangguo Wu; Xiaojing Yang; Zefa Deng; Lanri Lin
			Mixture Design and Implementation [Salon G] Session Chair: Kyle Riding	Towards Practical Implementation of Illinois-Specific Non-proprietary UHPC
		Advancing Sustainable UHPC with Mineral Fillers: Particle Packing Optimization and Rheological Control for Cement Reduction		Luca Sorelli; David Bouchard
		Response Surface Methodology Framework for Optimizing Non-Proprietary UHPC Mixture Design		Md Abdullah Al Sarfin; Srishti Banerji
		Performance of Non-Proprietary UHPC Bridge Deck Overlays with Reduced Steel Fiber Content		Mina Gerges; Akbota Aitbayeva; Jiong Hu; George Morcouc
		Field Projects, Case Studies, and Repair [Salon H] Session Chair: Rafic Helou	Innovative UHPC Caps to Mitigate Cracking in High Mast Tower and Sign Structure Foundations	Andy Foden; Shekhar Scindia
			Investigation of the Drivability of UHPC H-Piles	Ahmed Elsaywaf; Hany El Naggar; Philip Loh
			Applications of UHPC for Prestressed Bridge Girder Repairs	Luke Elmes; Emad Booya; Philip Loh; Steve Volpatti
			Technology Transfer and Field Implementation of UHPC for New and Retrofitting Rural Bridge Decks	Devansh Patel; Chidchanok Pleesudjai; Avinaya Tripathi; Ryan Jones; Jimmy Camp; Narayanan Neithalath; Barzin Mobasher
		Structural Behavior [Platte] Session Chair: Sahith Gali	Lessons Learned from Universal Element Shear Tests of UHPC	Dimitrios Kalliontzis; Abdulrahman Salah
			Experimental and Analytical Investigation of UHPC to Simplify Structural Detailing of Shear walls in Seismic Regions	Anupama Kamani; Sriram Aaleti
			Tensile Strength of Adhesive Anchors in Thin UHPC Panels	Pramashis Kar; Akram Jawdhari
			Construction and Structural Performance of Full-Scale UHPC Composite Box Beams	Huaian Zhang; Clay Naito

# WEDNESDAY SESSIONS

# EARLY AFTERNOON

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Wednesday, June 17, 2026	1:15pm - 3:00pm	Bridge Strengthening and Repair [Salon F] Session Chair: Andy Foden	Structural Design of UHPC Bridge Deck Overlays: Application of the New AASHTO Guide Specification	Anuoluwa Adediji; Zachary Haber; Andrew Foden
			UHPC Flange Repair on a Major Crossing of the Connecticut River	Kevin Zmetra; Brian Winger; Jennifer Pixley; Ryan Cooley; Michael Culmo; Bao Chuong; Andrew Cardinali
			An Evaluation of UHPC Overlay Application on Post-Tensioned Box Girder Bridge Decks Using a Large-scale Test	Sri Sritharan; Gata Milla; Philippe Kalmogo; Charles Sikorsky
			A Review of UHPC Waffle Deck Systems for Bridge Applications	Jozepha Soborowicz; Sri Sritharan
			Outcomes of UHPC Overlay Testing at BEAST	John Braley
		Architectural Applications [Salon G] Session Chair: Kejin Wang	The Dragonfly-shaped UHPC Glass Roof for the Renovation of the French Mutualité Building in Paris	Jerome Frecon
			UHPC Architectural Application in Project "The Roof"	Xiong Ke
			Bonding and Microstructural Properties of 3D Printed High Strength Fiber Reinforced Concrete (3DPHSFC)	Ahmed A. Nasr; Yazan Alhoubi; Mohamed A. Moustafa
			The Essential Role of Different Mold Technologies in the Production Quality, Design, and Complexity of Architectural Façade Elements in UHPFRC	Marvin Daulon; Jerome Frecon; Anthony Flaus
			UHPC Façade Panels and Stainless Steel Anchoring Systems: An Updated European Perspective (2016–2025)	Mickael Moos
		Structural Behavior and Design [Salon H] Session Chair: Philip Loh	End Zone Performance of Pretensioned UHPC Bridge Girders	Clay Naito; Rafic Helou; Benjamin Graybeal
			Effect of Column Aspect Ratio on Punching Shear Behavior of Unreinforced UHPC Plates	Furkan Cakmak; Fatmir Menkulasi
			Prestress Strengthening of UHPFRC Beams Using Fe-SMA Plates for Enhanced Resilience	Raafat El-Hacha; Benjamin Forrest
			Posttensioned Anchorage Zones in UHPC Components	Mi Jin Jung; Clay Naito; Rafic Helou; Benjamin Graybeal
			Capacity Model for Tensile Strength of Cast-In-Place Anchors in UHPC	Omid Sourji; Zachary Haber
		Mixture Design and Mechanical Performance [Platte] Session Chair: Ravi Ranade	Minimal Fiber Volume for Strain-hardening UHPC	A. Moman; S.H. Chu; F. Rajabipour
			Utilizing Particle Packing Factor (PPF) as a Quantitative Prediction Parameter for Designing Sustainable UHPC	Bayezid Baten; Nishant Garg
			Sustainable UHPC with Magnesium-Iron Silicate (MIS) from Mine Waste	Nancy Soliman; Mazen Hassan; Mohamed Mohamed; Rosa Soto Anzures; Isai Rodriguez; Ryan Wilks
			Radiation Shielding Properties of UHPC Incorporating Magnetite and Colemanite	Kaan Yildirim; Mohamad Tarabin; Ahmed Fageeri; Ousmane Hisseine; Moncef Nehdi
			Mechanism and Performance Optimization of Vibration Mixing Technology for UHPC	Xuan Liu; Xuhao Wang
		Durability and Long-Term Material Behavior [Mississippi/Missouri] Session Chair: Peter Seibert	Computed Tomography Image-Based Mesoscale Modeling of Chloride Transport in Uncracked and Cracked UHPC	Haji Sami Ullah; Subhashree Panda; Matthew P. Adams; Matthew J. Bandelt
			Surface Sealing Effects on Chloride Ingress in Cracked UHPC Monitored with $\mu$ XRF	Randa Zeidan; Peizhi Wang; Qian Zhang; Steven Nolan; Kyle Riding
			Innovative Timber-UHPC Composite Bridges: Structural Design, Shrinkage Deflection, and Sustainability	Luca Sorelli; Benjamin Turgeon; Paul Gauvreau
			Chloride Penetration in Cracked UHPC	Peizhi Wang; Randa Zeidan; Kyle Riding; Qian Zhang

3:00pm - 3:15pm

Coffee Break

Hotel Atrium

# WEDNESDAY SESSIONS

# LATE AFTERNOON

Date	Time	Session Title [Room]	Paper Title and Link	Author(s)
Wednesday, June 17, 2026	3:15pm - 5:00pm	Innovations in Mixture Design [Salon F] Session Chair: Philippe Kalmogo	Strength Development and Hydration Behavior of Pressure-Filtered Ultra-Dense Cement Pastes	Yifei Wang; Kay Wille
			Rheological Compatibility of Viscosity-Modifying Agents in Low-Cement UHPC	Seongho Han; Sukhoon Pyo; Ahamad Khan; Sherif EL-Tawil; Kamal Khayat
			Investigating the Dispersion Behavior of Silica Fume and Recycled Glass Powder Towards Sustainable UHPC	Aagya Dahal; Yifei Wang; Kay Wille
			Sustainable UHPC for Bridge Foundations: Advancements in Cement Replacement and Pile Optimization	Emad Booya; Philip Loh; Don Gardonio
		Sustainability [Salon G] Session Chair: Kejin Wang	A Cost-Effective, Sustainable UHPC Material for Highway Bridge Applications	Precious Aduwenye; Qian Zhang ; Xijun Shi
			Glass Pozzolan in UHPC: A Systematic Review of Mechanical, Durability, Microstructural and Sustainability Aspects	Supriya Bharti; Srishti Banerji
			Uncertainty Life-Cycle GHG Assessment of Steel-CA-UHPC Composite Bridge Deck: Considering Load-Induced Cracking and Maintenance Schedules	Jin Fan; Zhanchong Shi
			Decarbonization of UHPC by Upcycling Demolished UHPC Powders	Xianbing Ai; Rui Zhong
		Structural Behavior and Design [Salon H] Session Chair: George Morcous	Numerical Study on the Flexural Response of Prestressed Ultra-High-Performance Fiber-Reinforced Concrete Girders	Yogesh Yadav; Vijaya (VJ) Gopu; Roya Solhmirzaei
			Development and Analytical Evaluation of Non-Prestressed UHPFRC Railway Ties as an Alternative to Prestressed Concrete Ties	Nisreen Salameh; Raafat EL-Hacha
			Influence of Reinforcement Ratio and Axial Load on Behavior of UHPC and HPFRCC Columns	Ronit Sthapit; Matthew J. Bandelt
			Postlocalization Flexural Response of Pretensioned UHPC Beams	Huaian Zhang; Rafic Helou; Benjamin Graybeal
			Interpretable Machine Learning Framework with Comparative Feature Selection for Shear Capacity Prediction of UHPC Girders	Yogesh Yadav; Vijaya (VJ) Gopu; Roya Solhmirzaei
		Field Projects, Case Studies, and Repair [Platte] Session Chair: Michael McDonagh	Full UHPC Bridge Deck Repairs with UHPC Precast Deck Panels and UHPC Connections	Jerome Frecon
			Accelerated Bridge Construction of Bridges 1-488N&S	Nicholas Dean
			Developments of UHPC Technology and Application in China	Jun Zhao
			Des Sources Interchange Rehabilitation : Innovative Uses for UHPC	Sébastien Verger Leboeuf
		Durability and Long-Term Behavior [Mississippi/Missouri] Session Chair: Akram Jawdhari	Corrosion Resistance of UHPC under Cracked Conditions	Peizhi Wang; Randa Zeidan; Kyle Riding; Steven Nolan; Qian Zhang
			Long-Term Performance Evaluation of UHPC-Timber Composite Floor Systems	Luca Sorelli; Van Sy Pham; Truong Thanh Nguyen
			Freeze-Thaw Evaluation of UHPC Deck Overlay Material	Bin Cai; Sahith Gali; Philippe Kalmogo; Sri Sritharan; Charles Sikorsky
Role of Corrosion Inhibitor on Durability Performance of 3D-Printed UHPFRC	Jyotish Kumar Das; Behzad Nematollahi; Maurizio Guadagnini ; M. Mirza Abdillah Pratama			

# STUDENT COMPETITION

The 4th International Interactive Symposium on UHPC Student Competition challenged teams worldwide to design and test aesthetically pleasing, structurally efficient UHPC elements. Eight finalist teams advanced to Phase II, showcasing innovative mix designs, analysis methods, and craftsmanship through on-site three-point bending tests, poster presentations, and videos documenting their engineering journey. The beam bending test competition will take place at Iowa State University on June 16th, and the winners will be announced at the Awards Dinner that evening. Congratulations to all the teams on their hard work and their innovative solutions!

## Teams advanced to Phase 2 are:

Iowa State University, USA

McGill University, USA

New York University, Abu Dhabi

South Dakota State University, USA

Stevens Institute of Technology, USA

The University of Alabama, USA

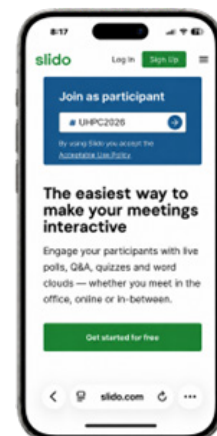
University of Houston, USA

Virginia Military Institute, USA

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Sri Sritharan: Symposium Co-Chair, Iowa State University

Ben Graybeal: Symposium Co-Chair, Federal Highway Administration

Matthew Bandelt: International Scientific Committee Co-Chair, New Jersey Institute of Technology

Zoi Ralli: International Scientific Committee Co-Chair, CTL Group

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## **First International Interactive Symposium on UHPC**

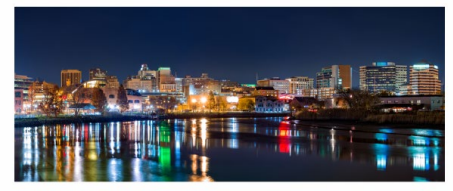
Des Moines, Iowa (July 18–20, 2016)



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## **Third International Interactive Symposium on UHPC**

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