



# *Final Programme*



## **IABSE Congress Nanjing 2022**

*Bridges and Structures*  
*Connection, Integration and Harmonisation*

21-23 September 2022  
Nanjing, China

**Organised by**  
The Chinese Group of IABSE

**In cooperation with**  
Tongji University  
Southeast University

**Supported by**  
Bridge and Structural Engineering Institution of CCES  
Jiangsu Provincial Transportation Engineering Construction Bureau  
Bridge Magazine (PCO)

## WELCOME MESSAGE

The IABSE Congress Nanjing 2022 is organized by the Chinese Group of IABSE in co-operation with Tongji University and Southeast University, and is held in Nanjing, one of the metropolises with a 3100-year history that had once been the capital of six dynasties in ancient China.

Bridges and structures are symbols of urban development and expansion. They are not only functional and presentational, but also deeply affect human's lifestyle. The Congress theme "Bridges and Structures: Connection, Integration and Harmonisation" reflects the influence of the infrastructure development on the evolving cities and city life. The three sub-themes, i.e., Future Trends and Innovations in Material, Design and Construction; Assessment, Strengthening and Management; Sustainability, Durability and Harmonization of Structures with more than 10 topics for each, explain our understanding of the theme from technical point of view.

The congress proceeding includes a printed version with two-page extended abstracts and an electronic version with the full papers available for download. There were 465 accepted abstracts and 281 papers selected by the Scientific Committee for oral presentation during the Congress.

Eight eminent engineers and scholars recommended by the Scientific Committee and the Chinese Group of IABSE will provide Keynote Lectures during the plenary sessions. In addition to the plenary sessions and six parallel sessions, there will also be three special sessions including SS1 (Recent Structures in China), SS2 (Recent Bridges in China) and SS3 (Industrial Session: OVM Technology Forum) in the congress.

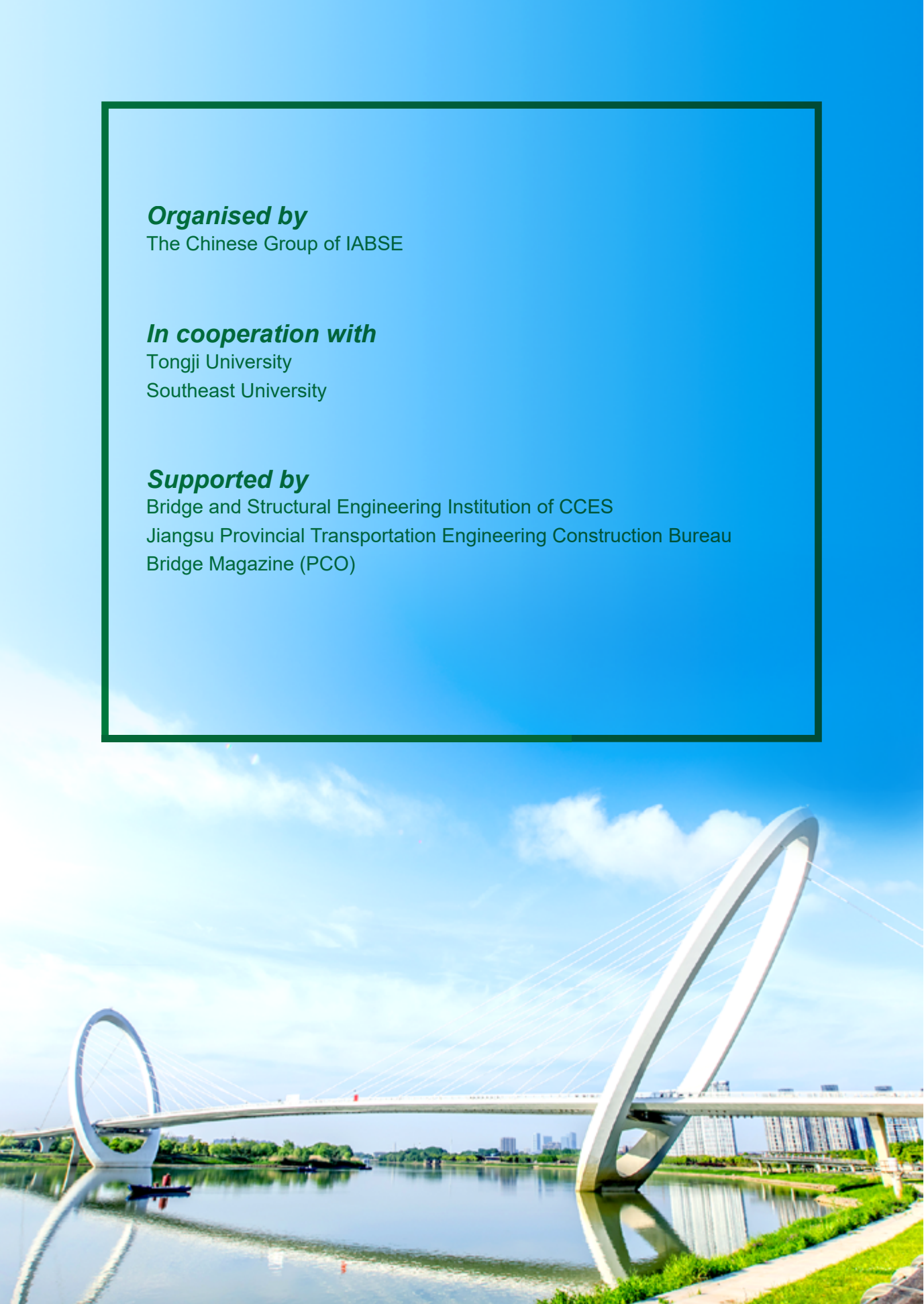
The congress is held in a hybrid format (This Final Programme provides a detailed on-site and online arrangement). International delegates who are not able to come to Nanjing in person can attend the congress online. For technical visits, all participants and accompany persons have the privilege to visit two world record-breaking bridges, i.e., Chang-Tai Cable-stayed Bridge with a main span of 1176m and Zhang-Jing-Gao Suspension Bridge with a main span of 2300m.

We thank all our colleagues for their contributions and support to make this congress possible, especially the Scientific Committee members, the experienced staff of IABSE Secretariat, local Professional Conference Organizers, all the members of the Organizing Committee, the Advisory Committee, the Supporting Organisers, and the Sponsors and Exhibitors.

Dong Xu  
Naeem Hussain  
Co-Chairs, Scientific Committee  
IABSE Congress Nanjing 2022

Limin Sun  
Gang Wu  
Co-Chairs, Organising Committee  
IABSE Congress Nanjing 2022

Nanjing, September 2022





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Gang Wu, *Southeast University*

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Hongwei Huang	Tianbo Peng	Bin Sun
Xu Jiang	Xin Ruan	Yongxin Yang
Jianzhong Li	Mingming Song	Ying Zhou
Chao Liu		

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Wen Deng	Zhao Liu	Wen Xiong
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### Jiangsu Provincial Transportation Engineering Construction Bureau

Yudong Yang

### Bridge Magazine

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Hailong Guo	Zhigang Yang	Shuxia Yu
Ling Liao		

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Shidong Luo	Gongyi Xu	



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Zhigang Yang, Bridge Magazine

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Jun Wang, Jingjiang tunnel Project & Haitai tunnel Project  
Guoxing Xia, Jiangsu Provincial Transportation Engineering Construction Bureau  
Yang Zhao, Office of Yangtze River Crossing Projects  
Chang Zhou, Jiangsu Provincial Transportation Engineering Construction Bureau

# THEMES AND TOPICS

## Bridges and Structures: Connection, Integration and Harmonisation

### Future Trends and Innovations in Material, Design and Construction

Mega structures (Projects)  
Long span and high-rise structures  
Future structural and functional demands  
Improvements of current codes and standards  
High and ultra-high performance materials  
Advanced experimental testing and techniques  
Advanced numerical models and simulations  
Building Information Modeling in structural engineering  
Innovative construction methods  
Innovative structural devices and products  
Digital technology and fabrication  
Applications of artificial intelligence

### Assessment, Strengthening and Management

Structural health monitoring  
Evaluation and assessment techniques  
Model updating, safety evaluation and reliability forecast  
Innovative inspection techniques  
Maintenance, repair and retrofitting strategies  
Load carrying capacity and remaining lifetime  
Strengthening and repurposing of structures  
Expanding structures service life  
Deconstruction and recycling  
Bridge management systems  
Resilience of structures and cities

### Sustainability, Durability and Harmonisation of Structures

Learning from previous errors: Forensic engineering  
Life-cycle based design  
Reducing risks of earthquakes, wind and other natural hazards  
Reducing risks of fire and other man-made hazards  
Extreme and exceptional loads on structures  
Climate change  
Fatigue and fracture  
Climate change adaptation and disaster resilience  
Environmental risk assessment  
Emission free building of structures  
Aesthetics in structural design  
Arcology

# KEYNOTE SPEAKERS



**Yeong-Bin Yang**

Honorary Dean of School of Civil Engineering, Director of Engineering Vibration and Disaster Prevention Research Center, Chongqing University, *China*

**Title of the Keynote:** Vehicle-Bridge Interaction Dynamics



**Marc Mimram**

Architect-engineer, Professor of Architectural Schools of Marne la Vallée, *France*

**Title of the Keynote:** Specific Infrastructures in Relationship with the Landscape



**Shunquan Qin**

Chairman of China Railway Major Bridge Reconnaissance & Design Institute Co., LTD. *China*

**Title of the Keynote:** Long Span Cable-Stayed Bridge Development



**Gonzalo Ramos Schneider**

Full Professor, Civil and Environmental Engineering Department, Universitat Politècnica de Catalunya – Barcelona TECH (UPC), *Spain*

**Title of the Keynote:** Effects of Subsidence Induced by Tunnelling on Buildings: The Sagrada Família Temple Case

# KEYNOTE SPEAKERS



**Ho-Kyung Kim**

POSCO Chair Professor, Department of Civil and Environmental Engineering, Seoul National University, *Korea*

**Title of the Keynote:** Probabilistic Assessment of Vehicle Driving Safety under Strong Winds - Cause Investigations on Two Sea-Crossing Bridges



**Stephanos E. Dritsos**

Emeritus Professor, University of Patras, *Greece*

**Title of the Keynote:** Assessment and Retrofitting of Existing R.C. Buildings - Recent Trends



**Bijan Khaleghi**

State Bridge & Structures Design Engineer, WSDOT, Bridge & Structures Office. Adjunct Professor, Saint Martin's University, *USA*

**Title of the Keynote:** Seismic and Tsunami Resiliency of Bridges and Transportation Structures



**Yaojun Ge**

IABSE President, Professor, Department of Bridge Engineering, Tongji University, *China*

**Title of the Keynote:** Innovation and Creation of Recent Bridge Development under the Direction of IABSE Outstanding Structure Award

# CONGRESS GENERAL INFORMATION

## Hybrid Format

A hybrid format will be applied. In Addition to the conventional congress venue in Nanjing, the international and demotic participants who can not come to the Venue in Nanjing are welcome to join us online with presentations, watch live broadcasts of all Opening and Closing Sessions, all Keynote and Parallel Sessions, and get a free access to the Virtual Exhibition.

## Online Platform — OnAIR

This new conference technology features will be applied to formulate a memorable hybrid IABSE Congress. Registered online participants would have the opportunity to explore the 3D congress lobby, utilize the communication function to liaise with all participants, visit all virtual exhibition booths, watch all promotional videos from the sponsors exhibitors, inquire the on-going and up-coming presentations, leave messages to the host, speakers, exhibitors, and conference organisers.



## Social Programme

There will be a welcome reception with light refreshment for all onsite participants on the 20th September, and a Gala Dinner on the 22nd September.

YEP Program will be organised on Zoom from 14:00 CEST (GMT+2)

## Onsite Registration

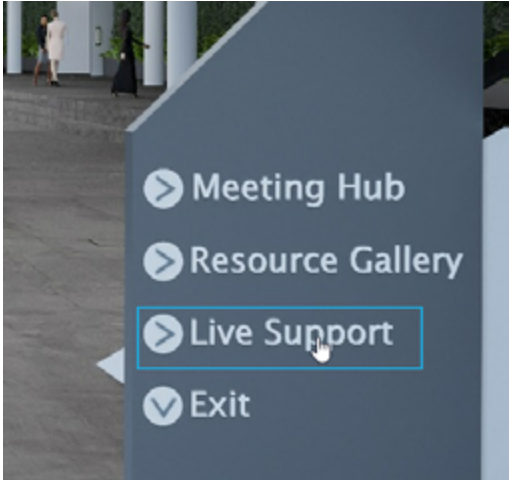
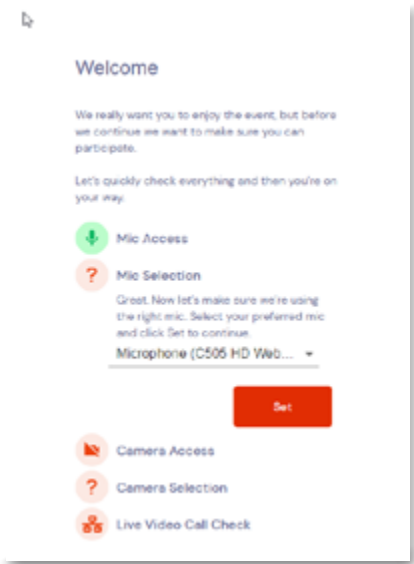
Onsite registration is available at the venue lobby area, from 14:00 to 21:00 on September 20. Please find the Congress Secretariat in Room 211 during the Congress from September 21 for registration and other matters.

# THE OnAIR PLATFORM

You can log in to the Congress virtual event portal anytime using the details provides to your email address.

To access the IABSE Congress Nanjing 2022 virtual platform, you will not need to download anything to attend and interact, but you will need a stable internet connection, and an internet browser - we would highly recommend you use Google Chrome as your preferred browser to access the platform.

After logging in, there will be a microphone and camera test prompt: below is the page you will see when you test your equipment. After finishing the checks, you can use your browser's settings to ensure that you're always asked before the microphone and camera are used.



Please note, if you are behind your business firewall and fail any technical checks, please ensure you speak to your IT support team to whitelist 'twilio.com', 'vonage.com', 'aircastcdn.com', and 'vimeo.com'.

Log in through both email + pin or the url provided to your email. You will be using this link to enter the congress before, during and after the Congress.

## Support on the Day

The virtual platform has a live support desk that you can contact if you face any technical issues or have questions about navigating the website features throughout the event days.

We look forward to seeing you online!



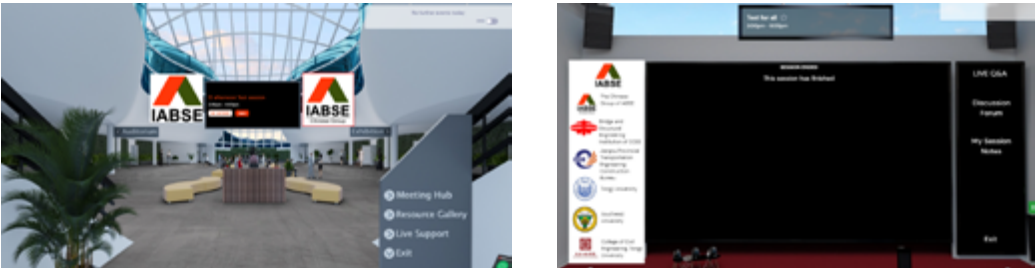
# THE *OnAIR* PLATFORM

These two videos may help you to familiarize with OnAir.

<https://vimeo.com/534258390/c5ad8b7dab>

<https://dyzz9obi78pm5.cloudfront.net/app/image/id/5f88a7cc6e121ce80b38b9ae/n/presenter-explainer-video-aircast-studio-rev2.mp4>

For all Participants:



Come to your session and wait for the presenter, feel free to utilize the Q&A, discussion and notes functions.



You can also use the Meeting Hub to find all registered participants.

For all presenters and chairs, your roles are pre-set, when you join in, you are automatically assigned to the AirCast Studio. (There will be an instruction to all presenters and session chairs)

Online technical visits will be ready along with all the online booths in the Exhibition Area and Resources Gallery.

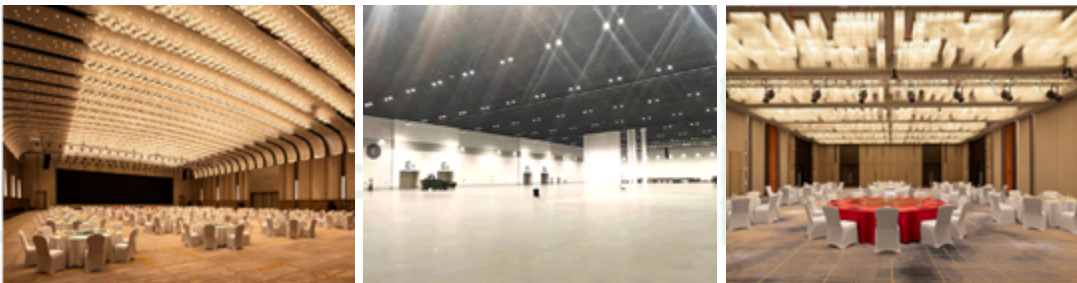


# CONGRESS VENUE

**Venue:** Nanjing Yangtze River International Conference Center  
**Address:** 299 Binjiang Avenue, Pukou District, Nanjing, Jiangsu, China

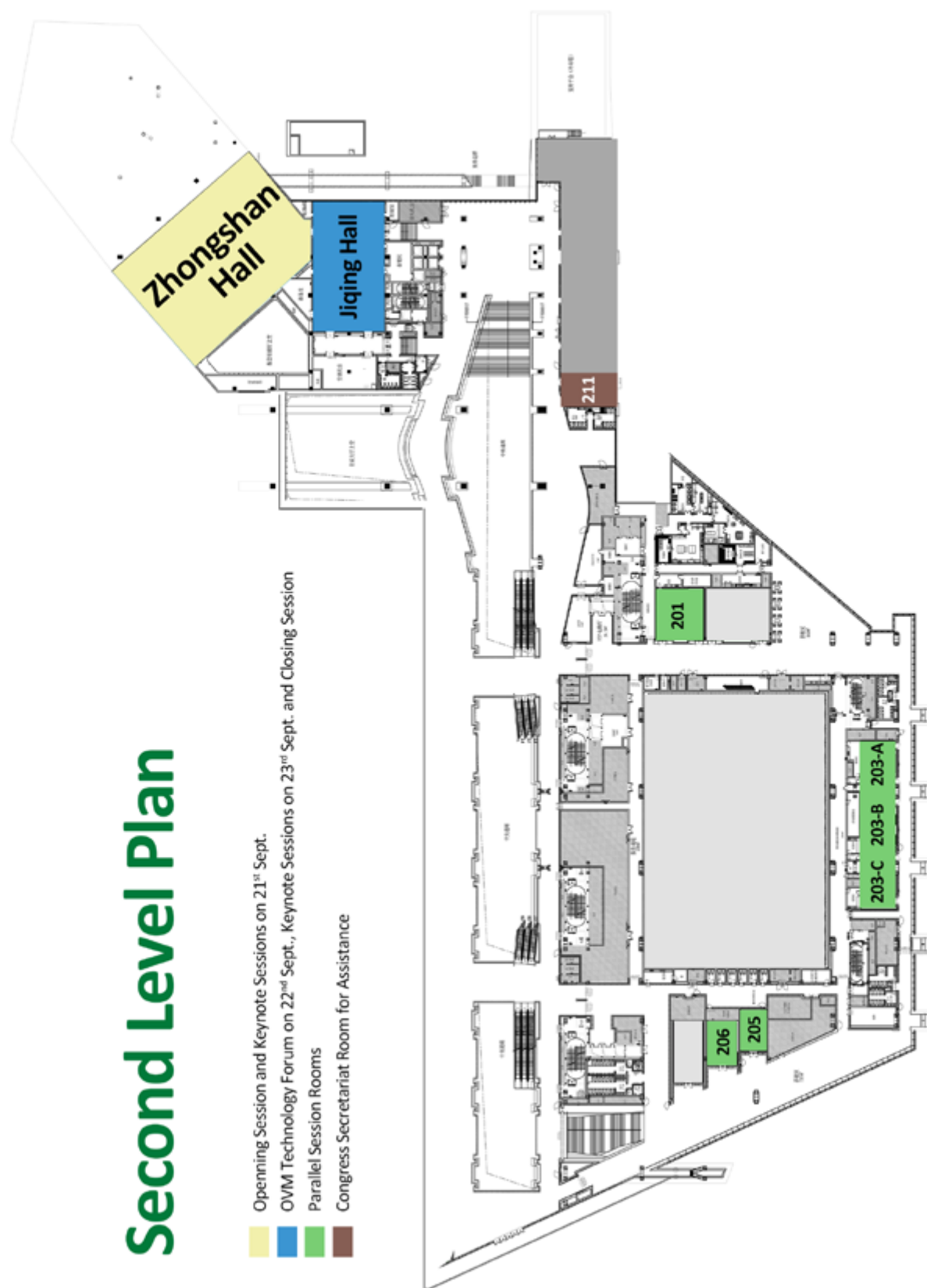
Locate in Pukou District in Nanjing, Yangtze River International Conference Center are a neofuturism style multifunctional skyscraper, covering a total area of 160,000m<sup>2</sup>. The Welcome Reception, Gala Dinner will also be arranged onsite in its Ballroom.

Yangtze River International Conference Center



# Second Level Plan

Opening Session and Keynote Sessions on 21<sup>st</sup> Sept.  
 OVM Technology Forum on 22<sup>nd</sup> Sept., Keynote Sessions on 23<sup>rd</sup> Sept. and Closing Session  
 Parallel Session Rooms  
 Congress Secretariat Room for Assistance



## TRAVEL AND ACCOMMODATION

### To the Venue

#### By public transport

**Nanjing Railway Station to the Venue:** take Metro Line 1, transfer to Line 2 at the Xinjiekou Station, get off at the Yuantong Station, and walk 1.7 km. It takes 1 hour.

**Nanjing South Railway Station to the Venue:** take Metro Line 1, transfer to Line 10 at the An'de'men station, get off at the Yuantong Station, and walk 1.7 km. It takes 50 minutes.

**Nanjing Lukou international Airport (NKG) to the Venue:** take Airport Line S1, transfer to Metro Line 1 at the Nanjing South Railway Station, and follow the guide above. It takes about 1.5 hours.

#### By car or taxi

**Nanjing Railway Station to the Venue:**

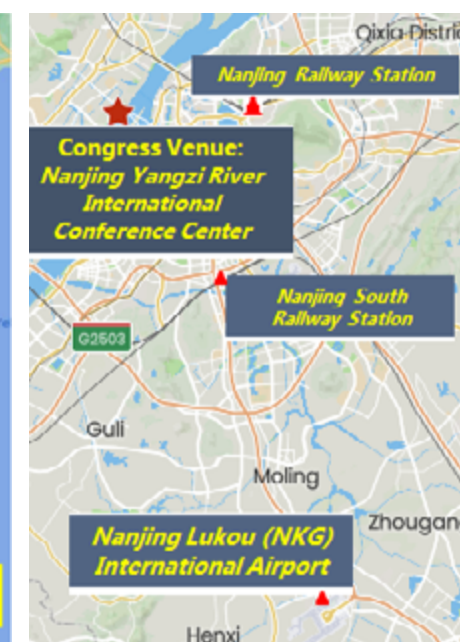
A 30-minute drive with a distance of 18 km. Taxi fare: 50 CNY

**Nanjing South Railway Station to the Venue:**

A 15-minute drive with a distance of 11 km. Taxi fare: 40 CNY

**Nanjing Lukou international Airport (NKG) to the Venue:**

A 35-minute drive with a distance of about 40 km. Taxi fare: 130 CNY



### Hotel

Yangtze River International Conference Center Hotel (Same place with the Congress Venue)



Programme At A Glance

Tuesday, September 20, 2022							
Beijing Time GMT+8	Activity			Place			
14:00 - 21:00	On-site Registration			Lobby of Yangtze River International Conference Center			
19:00	Welcome reception			Zhongshan Hall			
Wednesday, September 21, 2022							
Beijing Time GMT+8	CEST GMT+2	Parallel Sessions					
		Room 201	Room 206	Room 203-1	Room 203-2	Room 203-3	Room 205
		OnAIR Room #1	OnAIR Room #2	OnAIR Room #3	OnAIR Room #4	OnAIR Room #5	OnAIR Room #6
8:30	2:30	SS1: Recent Structures in China	A7: Advanced numerical models and simulations - I	A5: High and ultra-high performance materials - I	B1: Structural health monitoring - I	A3: Future structural and functional demands - I	C3: Reducing risks of earthquakes, wind and other natural hazards - I
9:00	3:00						
9:30	3:30						
10:00	4:00	Coffee Break, Exhibition					
10:30	4:30	SS2: Recent Bridges in China	A2: Long span and high-rise structures - I	A5: High and ultra-high performance materials - II	B1: Structural health monitoring - II	A3: Future structural and functional demands - II	C3: Reducing risks of earthquakes, wind and other natural hazards - II
11:00	5:00						
11:30	5:30						
12:00	6:00	Lunch at Manjianglou Restaurant					
Plenary Session							
Zhongshan Hall, OnAIR Room #1							
14:00	8:00	Opening Session					
14:30	8:30	Keynote 1: Vehicle-Bridge Interaction Dynamics Yeong-Bin Yang					Chair: Limin Sun
15:10	9:10	Group Photo, Coffee Break, Exhibition					
15:30	9:30	Keynote 2: Specific Infrastructures in Relationship with the Landscape Marc Mimram					Chairs: Dong Xu Wen Xiong
16:10	10:10	Keynote 3: Challenges and Innovations in Design and Construction of Supersized Structural Components for Long Span Bridges Shunquan Qin					
16:50	10:50	Keynote 4: Effects of Subsidence Induced by Tunnelling on Buildings: The Sagrada Familia Temple case Gonzalo Ramos Schneider					
18:00	12:00	Buffet Dinner at Manjianglou Restaurant					
20:00	14:00	YEP Event Zoom Online					

Thursday, September 22, 2022							
Beijing Time GMT+8	CEST GMT+2	Parallel Sessions, Block 3 & 4					
		Room 201	Room 205	Room 203-1	Room 203-2	Room 203-3	Room 206
		OnAIR Room #1	OnAIR Room #2	OnAIR Room #3	OnAIR Room #4	OnAIR Room #5	OnAIR Room #6
8:30	2:30	A2: Long span and high-rise structures - II	A1: Mega structures (Projects) - I	A10: Innovative structural devices and products - I	B2: Evaluation and assessment techniques - I	A9: Innovative construction methods - I	A6: Advanced experimental testing and techniques
9:00	3:00						
9:30	3:30						
10:00	4:00	Coffee Break, Exhibition					
10:30	4:30	A2: Long span and high-rise structures - III	A12: Applications of artificial intelligence	A4: Improvements of current codes and standards	B3: Model updating, safety evaluation and reliability forecast - I	C5: Extreme and exceptional loads on structures - I	C2 & B4: Life-cycle based design & Innovative inspection techniques - I
11:00	5:00						
11:30	5:30						
12:00	6:00	Lunch at Manjianglou Restaurant					
Beijing Time GMT+8	CEST GMT+2	Parallel Sessions, Block 5 & 6					
		Room 201	Room 205	Room 203-1	Room 203-2	Room 203-3	Jiqing Hall
		OnAIR Room #1	OnAIR Room #2	OnAIR Room #3	OnAIR Room #4	OnAIR Room #5	OnAIR Room #6
14:00	8:00	B6: Load carrying capacity and remaining lifetime	A7: Advanced numerical models and simulations - II	A8, A10 & A11: BIM, Innovative structural devices and products - II & Digital technology and fabrication	A2 & B3: Long span and high-rise structures - II & Model updating, safety evaluation and reliability forecast - II"	B5: Maintenance, repair and retrofitting strategies	SS3: Industrial Session: OVM Technology Forum
14:30	8:30						
15:00	9:00						
15:30	9:30	Coffee Break, Exhibition					
16:00	10:00	A9: Innovative construction methods - II	A1 & C5: Mega structures (Projects) - II & Extreme and exceptional loads on structures - II"	B2: Evaluation and assessment techniques - II"	B10: Bridge management systems	B1: Structural health monitoring - III	
16:30	10:30						
17:00	11:00						
19:30	13:30	Gala Dinner at Jiqing Hall					



## Wednesday, September 21, 2022 Parallel Sessions, Block 1

Friday, September 23, 2022						
Beijing Time GMT+8	CEST GMT+2	Parallel Sessions, Block 7 & 8				
		Room 201	Room 205	Room 203-1	Room 203-2	Room 203-3
		OnAIR Room #1	OnAIR Room #2	OnAIR Room #3	OnAIR Room #4	OnAIR Room #5
8:30	2:30	A2: Long span and high-rise structures - V	A7: Advanced numerical models and simulations - III	C4 & C6: Reducing risks of fire and other man-made hazards & Climate Change	A5: High and ultra-high performance materials - III	B7: Strengthening and repurposing of structures
9:00	3:00					
9:30	3:30					
10:00	4:00	Coffee Break, Exhibition				
10:30	4:30	A2: Long span and high-rise structures - VI	C7: Fatigue and fracture	C11: Aesthetics in structural design	B1 & B4: Structural health monitoring - IV & Innovative inspection techniques - II	
11:00	5:00					
11:30	5:30					
12:00	6:00	Lunch at Manjianglou Restaurant				
Plenary Session						
Jiqing Hall, OnAIR Room #1						
14:00	8:00	Keynote 5: Probabilistic Assessment of Vehicle Driving Safety under Strong Winds Ho-Kyung Kim				Chairs: Tina Vejrum, Limin Sun
14:40	8:40	Keynote 6: Assessment and Retrofitting of Existing R.C.Buildings- Recent Trends Stephanos E. Dritsos				
15:20	9:20	Keynote 7: Seismic and Tsunami Resiliency of Bridges and Transportation Structures Bijan Khaleghi				
16:00	10:00	Coffee Break, Exhibition				
16:30	10:30	Keynote 8: Innovation and creation of recent bridge development under the direction of IABSE Outstanding Structure Award Yaojun Ge				Chair: Gang Wu
17:10	11:10	Closing Session				
18:00	12:30	Buffet at Room 203				

SS1: Recent Structures in China		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Congzhen Xiao, Zhi Sun	
8:30	Application and Innovation of High Strength Concrete In High Rise Building Structures Congzhen Xiao	
8:42	Long Span Structure Design of Beijing Daxing International Airport Terminal Building Zhongyi Zhu	
8:54	Xiong'an Railway Station: A Supersized Railway Station in High Seismic Intensity Zone Zhong Fan	
9:06	Rapid Design and Construction Management of Emergency Hospital During the COVID-19 Epidemic Liming Yuan	
9:18	Study On Stability of Single-Layer Aluminum Alloy Structure and Shear Capacity of Joints Jiemin Ding	
9:30	Discussion	

A7: Advanced numerical models and simulations - I		
Beijing Time GMT+8	Room: 206	OnAIR Room #2
	Chairs: Debra Laefer, Hongwei Huang	
8:30	FE Modeling of the Interfacial Behaviour of Precast Multi-Box Girder Juhui Zhang	
8:42	Nonlinear Galloping Analysis of the Main Cable in Construction Tao Li, Wenming Zhang	
8:54	Numerical Analysis of New Prefabricated Cantilever Retaining Walls Wenhao Li	
9:06	Numeric Analysis of Creep Effects on Steel-concrete Composite Structure with Equivalent Temperature Field Method Cunxin Yin	
9:18	Numerical Simulation of Overall Marine Transportation of Bay Bridges under Complex Hydrographic Environment Yu Fang, Wen Xiong	
9:30	Design Method and Finite Element Analysis of Precast Longitudinal Split-Piece Cover Beam Qianyi Mao	
9:42	Discussion	

A5: High and ultra-high performance materials - I		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Dongzhou Huang, Yongxin Yang	
8:30	Experimental Study on Tension Mechanisms of Ultra-High Performance Concrete Link Slab in Jointless Bridge Decks Jianhui Lin	
8:42	Short Stud Arrangement Effect on Flexural Behavior of Steel-UHPC Composite Decks Han Xiao	
8:54	Thermal Spray Zinc-based Coatings for Protecting Bridges from Corrosion Gang Kong	
9:06	Continuous Galvanized Reinforcement Steel in Concrete Structures Delin Lai	
9:18	Effect of SFRC Composite Deck on Negative Bending Behavior Steel Box Girder Yi Xu	
9:30	Seismic Response Analysis for Engineering Structures Equipped with Double Viscous Damper Toggle Brace System Gang Wang	
9:42	Discussion	

## Wednesday, September 21, 2022 Parallel Sessions, Block 1

B1: Structural health monitoring - I		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Ho-Kyung Kim, Xu Jiang	
8:30	<i>A New Method for Calculating Bridge Influence Surface</i> Haibing Wu	
8:42	<i>Semi-active Control of Cable Vibration using MR Damper under Wind Loads</i> Hongwei Huang	
8:54	<i>Detection Algorithm of Structural Surface Cracks Based on Class Activation Map</i> Boqiang Xu	
9:06	<i>Application of NLP Technology in the Information Extraction of Bridge Management and Maintenance Documents</i> Luyang Zhang	
9:18	<i>Structural Health Diagnosis Under Limited Supervision</i> Yang Xu	
9:30	<i>Response reconstruction based on a multi-end convolutional neural network</i> Peng Ni	
9:42	Discussion	

A3: Future structural and functional demands - I		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: Bruno Briseghella, Lan Duan	
8:30	<i>Advantages of New Type of Steel Box Coarse Aggregate Reactive Powder Concrete Composite Continuous Beam Bridge</i> Jie Meng	
8:42	<i>Experimental Study of the Post-tensioned Prefabricated Retaining Blocks with Mortise-Tenon Joint</i> Wenpeng Wu	
8:54	<i>Corresponding Force Matrix: A Bridge Connecting Refined Analysis and Reinforcement Design of Box-section Girders Based on Shells</i> Yu Zhang	
9:06	<i>Numerical Analysis of Flexural Behaviour of High Strength I-Shape Steel Composite Girders with Corrugated Webs</i> Lan Duan	
9:18	<i>Numerical Simulation of Longitudinal Shear Behavior of High Strength Steel and Concrete Composite Girders</i> Lan Duan	
9:30	<i>Modal Analysis and TMD Design of the Wing-Spread Bridge: A Pedestrian Bridge along the Binjiang Avenue</i> Lanxin Luo	
9:42	Discussion	

C3: Reducing risks of earthquakes, wind and other natural hazards - I		
Beijing Time GMT+8	Room: 205	OnAIR Room #6
	Chairs: Matias Valenzuela, Genshen Fang	
8:30	<i>Seismic Vulnerability Study of Precast Segmental Piers with Bonded Tendons</i> Saiyang Zhuo	
8:42	<i>Damage study of Dhamdum bridge concrete Pier by flowing rock impact</i> Faria Sharmin	
8:54	<i>Effect of Seismic Isolation Bearings on The Potential Pounding Between Adjacent Girders for Long-Length Girder Bridge Systems</i> Wei Guo	
9:06	<i>Seismic analysis of high-speed railway irregular bridge-track system under obliquely incident waves</i> Zhihui Zhu	
9:18	<i>Seismic Fragility of Double-Deck Curved Girder Bridge Based on Artificial Neural Network and Lasso-Logistic Regression</i> Weizuo Guo	
9:30	Discussion	

## Wednesday, September 21, 2022 Parallel Sessions, Block 2

SS2: Recent Bridges in China		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Junli Zhao, Dong Xu	
10:30	<i>Innovative Technologies for Construction of the Pingnan Third Bridge</i> Bing Tu, Jielian Zheng	
10:42	<i>Wuhu Second Bridge: Development of Stayed Cable Anchorage System and Application of Structural Innovations</i> Ke Hu	
10:54	<i>Steel-Concrete Composite Cable-stayed Bridge—Main Acrossing Bridge of Nanjing Jiangxinzhou Yangtze River Bridge</i> Bing Cui	
11:06	<i>Innovative Design for Qingshan Yangtze River Bridge</i> Gongyi Xu	
11:18	<i>Key Techniques for the Main Navigable Bridge of the Main Passageway of Ningbo-Zhoushan Port</i> Lei Li, Changjiang Wang	
11:30	<i>Key Construction Techniques of East Tower and Anchorage of Lingdingyang Bridge in Shenzhong Link</i> Hong Zhang	
11:42	Discussion	

A2: Long span and high-rise structures - I		
Beijing Time GMT+8	Room: 206	OnAIR Room #2
	Chairs: Xin Zhao, Chao Liu	
10:30	<i>Trial Design of a New Type of Large-span Double-limb Prestressed Concrete Box Girder Bridge with Corrugated Steel Webs</i> Bing Shangguan	
10:42	<i>Research on the connected effect of separated bridges based on a large-span continuous rigid frame bridge</i> Zhimin Xu	
10:54	<i>An Enhanced Deep Learning Scheme for 3D Nonlinear Flutter of Long-span Bridges</i> Tao Li	
11:06	<i>Key Technology of Design of Cable-Stayed Bridge in High Intensity Area</i> Yongxian Wu	
11:18	<i>Multilevel Decomposition Model for Optimal Design of Multi-Story Structures</i> Morn Chornay, Xin Zhao	
11:30	<i>Study on Long-term Deflection Control Performance of Long-span Prestressed Concrete Combination Structure Rail Transit Bridges</i> Yaping Lai	
11:42	Discussion	

A5: High and ultra-high performance materials - II		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Chunsheng Wang, Lin Chen	
10:30	<i>Practical Use of UHPC as a Main Material for Superstructure of Pedestrian Bridges</i> Lucas Vrablik	
10:42	<i>Experimental Study on Transverse Force Performance of New Type of Steel-Concrete Composite Girder Bridge Decks</i> Zhanghua Xia	
10:54	<i>Experimental Study of Curved SFRC and ECC Composite Beams with Various Connectors</i> Li Zhu	
11:06	<i>Study on the Bearing Capacity of Grouted Connections with Shear Keys</i> Ruiqi Deng	
11:18	<i>Finite Element Analysis of Local Pressure Failure Mechanism of RPC</i> Moneef Mohamed Elobaid Musa	
11:30	Discussion	

## Wednesday, September 21, 2022 Parallel Sessions, Block 2

B1: Structural health monitoring - II		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Zhi Sun, Dalei Wang	
10:30	Computer-Vision-Based Real-Time Rock Fragment Recognition During Tunnel Excavation Weidong Qiao	
10:42	Long-Term Damping Characteristics of a Cable-Stayed Bridge Doyun Hwang	
10:54	A Multi-label Classification Method for Anomaly Detection of Bridge Structural Health Monitoring Data Zhiqiang Shang	
11:06	A Novel Portable Vision-Based Bridge Weigh in Motion Method Dalei Wang	
11:18	Unit influence surface identification of long-span bridge based on spatial-temporal vehicle load monitoring Yiqing Dong, Yue Pan	
11:30	Research on identification of time-varying cable force Junzheng Zhang	
11:42	Discussion	

A3: Future structural and functional demands - II		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: B.C. Roy, Mingming Song	
10:30	Tendon Distribution Optimization Method of Prestressed Concrete Bridges Based on Consistent Safety Degree of Stress Index Tianhu Wang	
10:42	Slipping Behavior and Relaxation Characteristics of Thin-Walled GFRP High-Strength Bolted Friction Joints for Sound Barriers on Bridge Viaducts Masaki Sekimoto	
10:54	Track Transition on Bridges or Switch-Over Ramps: Rail Based Urban Transport B. C. Roy	
11:06	Vibration control of simply supported beam bridges equipped with an underdeck adaptive tensioning system Arka P. Reksowardojo	
11:18	Effects of Axial Compression Ratio on Socketed Precast Pier-Footing Connection Suresh Shivahari	
11:30	Experimental Study on Simply Supported Bridges of Steel-Concrete Composite Structure Strengthened with Externally Pre-Stressed CFRP Plates Yin Shen	
11:42	Discussion	

C3: Reducing risks of earthquakes, wind and other natural hazards - II		
Beijing Time GMT+8	Room: 205	OnAIR Room #6
	Chairs: Harshavardhan Subbarao, Yongxin Yang	
10:30	Flutter Fragility Analysis of Long-Span Bridges Based on 3D Typhoon Model Using Geographically Weighted Regression Genshen Fang	
10:42	Reconnaissance Report on Damage of Bridges in 2021 Maduo, China, Earthquake Jingcheng Wang	
10:54	Experimental Study on Scour Depth Monitoring of Bridge Foundation Based on Ultrasonic Wave Shuaibin Ma	
11:06	Parametric analysis and performance evaluation of tuned mass damper inerter (TMDI) to mitigate the vortex-induced vibration of a long-span bridge Daguang Zhang	
11:18	Damping of long-span suspension bridges with damped outriggers Zhanhang Liu	
11:30	Experimental Study on Shear Performance of Steel Shear Key Dry Joint in Precast Segmental Bridges Yu Zou	
11:42	Discussion	

## Thursday, September 22, 2022 Parallel Sessions, Block 3

A2: Long span and high-rise structures - II		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Mangmang Gao, Jianming Hao	
8:30	State of the Art of Concrete Segmental Bridges Dongzhou Huang	
8:42	Study on Mechanical Property of Reticulated Shell Structure Canopy Considering Elevated-effect of Viaduct in High-speed Rail Station Chuanping Liu	
8:54	Investigation on the Flexural Behavior of Reinforced UHPC T-Beams with Different Tensile Strain-Hardening Properties of Base Materials Mujahed Alsomiri	
9:06	Wind Induced Response Analysis and Vibration Mitigation Design for Steel Tall Buildings Equipped with Viscous Dampers Yuzhou Hou	
9:18	Wind Induced Vibration Performance of Suspended Double-deck Flat Box Girder Bridge Guang Hong	
9:30	Numerical Ward-Type Tornado Simulator and Its Application to Transient Wind-Induced Response of Long-Span Bridges Jianming Hao	
9:42	Discussion	

A1: Mega structures (Projects) - I		
Beijing Time GMT+8	Room: 205	OnAIR Room #2
	Chairs: Sebastien Maheux, Junling Sun	
8:30	Key Technologies of Precast Segment Production for the 4th Ring Transportation Corridor in Zhengzhou, Henan, China Junling Sun	
8:42	Innovations and Breakthroughs in China's Zhang-Jing-Gao Yangtze River Bridge Hongtao Li	
8:54	The Construction of Hong Kong-Zhuhai-Macao Bridge Wenbo Gao	
9:06	ShiZiYang Bridge – Large Diameter Main Cables Jakub Duris	
9:18	ShiZiYang Bridge – General Scheme Design Options for Mega Suspension Bridge Jun Xu	
9:30	Archimedes Bridge Underwater of BaiYangDian Lake Zhibo Teng	
9:42	Discussion	

A10: Innovative structural devices and products - I		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Kefei Li, Zhizhi Zhu	
8:30	Impact of Damping for Structural Response in Building Renovation under MDDM Daohang Hu	
8:42	The Modern PU-Based Flexible Plug Expansion Joint for Bridges – Recent Innovations Pascal Savioz	
8:54	Flexible Protection Technology of Bridge Pier against Ship Collision Yonggang Wang	
9:06	Research on Standardized Design of Assembled Pile-slab Road Structures Zhiquan Liu	
9:18	Design and Overall Mechanical Characteristics Analysis of Hybrid Composite Beam Single Tower Cable-Stayed Bridge Jianmin Wu	
9:30	Construction of Flexible Waterstops on Underwater Cofferdams for Pile Caps in Bridge Projects Junle Zhang	
9:42	Discussion	



## Thursday, September 22, 2022 Parallel Sessions, Block 3

B2: Evaluation and assessment techniques - I		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Chunsheng Wang, Wenbo Gao	
8:30	<i>Pixel-level Road Crack Detection and Segmentation Based on Deep Learning</i> An Zhang	
8:42	<i>Experimental study on seismic performance of reinforced concrete columns with longitudinal reinforcing bars connected by flare welding joint subjected to effective re-use of the existing railway structures</i> Koji Daigo	
8:54	<i>Research on fatigue vehicle models of Yangtze River Highway Bridge</i> Zhilin Lv	
9:06	<i>Quantitative Analysis of the Importance and Correlation of Urban Bridges and Roads in the Study of Road Network Vulnerability</i> Qinghua Xiao	
9:18	<i>Parameterized Analysis of Guide Beam in the Incremental Launching Construction of Five-span Steel Box Girder Bridge</i> Jinrui Hu	
9:30	Discussion	

A9: Innovative construction methods - I		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: Bijan Khaleghi, Yu Zou	
8:30	<i>Innovative Design and Materials for Seismic Resilient Accelerated Bridge Construction</i> Bijan Khaleghi	
8:42	<i>Study on anchorage type selection of Sichuan Bank of Sichuan Kahalo Jinsha River Bridge</i> Qigang Xu	
8:54	<i>In-Situ Test and Simulation of the Web-Self-Supporting Construction for the Composite Bridge with Corrugated Steel Webs</i> Haochu Cai	
9:06	<i>Automatic Production Process and Quality Control of Large Bridge Component Factory</i> Haipeng Sun, Lei Shi	
9:18	<i>Key Technology for Planning and Construction of Automated Production Lines in Large Bridge Factories</i> Haipeng Sun, Jun Song	
9:30	<i>Research on key technology of large tonnage steel beam fast sliding positioning</i> Xiang Zhang	
9:42	Discussion	

A6: Advanced experimental testing and techniques		
Beijing Time GMT+8	Room: 206	OnAIR Room #6
	Chairs: Congzhen Xiao, Lin Chen	
8:30	<i>Research on wind field characteristics measured in U-shaped valley at bridge site by Lidar</i> Jun Wang	
8:42	<i>Advances in and Benefits of Rapid Steel Connections</i> Salam Al-Sabah	
8:54	<i>Analysis of Local Compressive Behaviour of Concrete Bed Under an Embedded Cast Iron Cable Saddle</i> Yuan Yuan	
9:06	<i>Investigation on the Unsteady Aerodynamic Force on A 3:2 Rectangular Section Under Accelerating Airflow</i> Xiuyu Chen	
9:18	<i>Analysis and Optimization of Single Cable Plane Prestressed Concrete Extradosed Cable-stayed Bridge</i> Yongqi Liu	
9:30	<i>Analysis on Segmental Deck Replacement Plan for Large-span network arch bridge</i> Huiyang Fu	
9:42	Discussion	

## Thursday, September 22, 2022 Parallel Sessions, Block 4

A2: Long span and high-rise structures - III		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Hui Guo, Ye Xia	
10:30	<i>Effect of Short-Term Shrinkage on Deck Concrete of a Rail-Cum-Road Composite Truss Bridge</i> Dewang Li	
10:42	<i>Analysis on Mechanical Performance of Rail-Cum-Road Double Deck Steel Truss-Arch Composite System Bridge</i> Bingfei Liu	
10:54	<i>Analysis of Reasonable Longitudinal Restraint System of Four-Tower Cable-Stayed Bridge</i> Hui Wang	
11:06	<i>Recent Development and Challenges of Long-Span Railway Cable-Stayed Bridges in China</i> Hui Guo	
11:18	<i>Effect of Concrete Thickness on Fatigue Performance for Rib-to-Diaphragm in Steel-Concrete Orthotropic Composite Decks</i> Yu Wu	
11:30	Discussion	

A12: Applications of artificial intelligence		
Beijing Time GMT+8	Room: 205	OnAIR Room #2
	Chairs: Nan Zhang, Bin Sun	
10:30	<i>Long-Term Missing Wind Data Recovery for Bridge Health Monitoring Using Deep Learning</i> Zhiwei Wang	
10:42	<i>Intelligent Upgrading and Application of Bridge Video Surveillance System Based on Computer Vision</i> Yuan Chen	
10:54	<i>Prediction of Concrete Column Reinforcement Corrosion Degree Under Initial Strain Based on Support Vector Regression</i> Taotao Wu	
11:06	<i>Aerodynamic Parameter Identification and Flutter Performance Prediction of Closed Box Girder Based on Machine Learning</i> Neyu Chen	
11:18	<i>Sensitivity-based structural damage identification via response reconstruction</i> Yunan Si	
11:30	Discussion	

A4: Improvements of current codes and standards		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Chen Xu, Yu Zhang	
10:30	<i>Desirable Geometrical Configurations of The Web/Flange Splices for Enhancing the Frictional Slip Resistance of an I-Girder</i> Ryo Sakura	
10:42	<i>Buckling Behavior of Stiffened Plates in Concrete-Filled Steel Tubular Bridge Towers</i> Lipeng Sun	
10:54	<i>Property Analysis of Link Slab in Long-span Steel-Concrete Composite Bridge</i> Liang Xiao	
11:06	<i>Experimental Design of Link Slab in Long-span Steel-Concrete Composite Bridge</i> Liang Xiao	
11:18	<i>Effect of Steel Diaphragms on Girder Performance of Simply Supported T-Girder Bridges with Wide Girder Spacing</i> Chang Liu	
11:30	Discussion	

## Thursday, September 22, 2022 Parallel Sessions, Block 4

B3: Model updating, safety evaluation and reliability forecast - I		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Haijun Zhou, Donghui Yang	
10:30	Computer Vision-based Finite Element Model Updating Method Using Measured Static Data: An Experimental Study Lanxin Luo	
10:42	Algorithm of the Risk of Ship-Bridge Collision Considering Ship's Dimension Jingyan Zhang	
10:54	Reliability Evaluation of Bridge Fatigue Life through Refined Statistical Analysis of Stochastic Traffic Flow Monitoring Data Donghui Yang	
11:06	On the Benefit of Including Modal Strains in FE Model Updating for Damage Assessment Wei Yang	
11:18	Study on the Influence of Bridge Expansion Joints on Vehicle-Track-Bridge System Yunlu Wang	
11:30	Research on the Layout of Temporary Piers of Large-span and Super-width Steel Box Girder during Incremental Launching Construction Wei Xie	
11:42	Discussion	

C5: Extreme and exceptional loads on structures - I		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: Yuan Sun, Hongya Qu	
10:30	Analysis of lateral torsional buckling of steel I-beams within preflexed beams in pre-bending stage Linjie Tian	
10:42	Experimental and Numerical Study on the Seismic Performance of Precast Bridge Column with an Improved Grouted Corrugated Duct Connection Design Hongya Qu	
10:54	Numerical Simulation of the Nonlinear Flexural Behavior of Pretensioned Void Slabs with Different Concrete Constitutive Laws Tao Wang	
11:06	Characteristics and Research Progress of Frost Heaving and Frost Pulling of Pile-soil System Yunjia Li	
11:18	Investigation on extreme temperature gradient action of composite girder bridges considering regional difference Jiang Liu	
11:30	Experimental study on the influence of gust-wind on a high-speed railway train-viaduct system Simin Zou	
11:42	Discussion	

B4 & C2: Life-cycle based design & Innovative inspection techniques - I		
Beijing Time GMT+8	Room: 206	OnAIR Room #6
	Chairs: Junli Zhao, Dalei Wang	
10:30	Mechanical Performance of Skewed Deck-extension Bridge Shengrong Mao	
10:42	Technical Research on OVM250 PSC System with High Fatigue Strength and Full Life Cycle Durability Yunyou Yan	
10:54	Effects of Corrosion on The Capacity of The Nib of Reinforced Concrete Dapped-End Beams Luca Sgambi, Alexandra Bontemps	
11:06	Study on Risk of Ship Collision in Bridge Life-cycle Based on Synergetic Theory Yihua Liu, Xin Guo	
11:18	Automated crack detection method based on 3D reconstruction for concrete bridges Tao Sun	
11:30	A novel method for generating apparent panoramic image of real texture of concrete bridge based on multi-view registration Dalei Wang	
11:42	Discussion	

## Thursday, September 22, 2022 Parallel Sessions, Block 5

B6: Load carrying capacity and remaining lifetime		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Bruno Briseghella, Kefei Li	
14:00	Reinforcement Design for Abutment-Beam Joint of an Integral Abutment Bridge Based on "Tensile Stress Region" Theory Yongxue Jin	
14:12	Connecting tubular members by circular cover plate and central flange Philippe Van Bogaert	
14:24	Mechanical Analysis of Central Buckle Region of Long Span Suspension Bridge Yifang Ji	
14:36	Preliminary analyses for the study of the effects of an explosive action on a long-span suspension bridge Luca Sgambi	
14:48	Influence of Different Debonding Gap Types on Mechanical Performance of Axially Loaded CFST Stub Columns Jianping Huang	
15:00	Failures of Steel Silos for Grain Storage - Fortuity or Underestimated Risk Raina Boiadjeva	
15:12	Discussion	

A7: Advanced numerical models and simulations - II		
Beijing Time GMT+8	Room: 205	OnAIR Room #2
	Chairs: Rober Hertle, Hongwei Huang	
14:00	Case Study on a Nonlinear Static and Dynamic Behavior of a 2D-Story Steel Frame with Different Configuration Landry Wilfried Tim Sob	
14:12	Parametric Study and Design Method of Compressed Steel-Rubber Composite Anti-Collision Device Ruigen Zhou	
14:24	Influence of Uniform Thermal Cycles in Reducing Rail Stresses Induced by Creep and Shrinkage Built over Time in Concrete Railway Bridges Salem Aksil, Paul-Emile Durand	
14:36	Design of Pre-Stressed Intersecting Cable String Steel Bridge Povilas Dabrila	
14:48	Implementation of Neural Networks for the Calibration of a Macroscopic Model of a Lead-Core Bearing Device Todor Zhelyazov	
15:00	Direct Shear: A Mechanism that is Often Ignored and Rarely Studied Dong Xu	
15:12	Discussion	

A10 & A8 & A11 : Innovative structural devices and products - II & BIM & Digital technology and fabrication		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Milad Komarizadehasl, Xin Ruan	
14:00	Moveable Facade Elements for Sustainable High-rise Buildings Yangwen Zhang	
14:12	Seismic Behavior Analysis of a Novel Elastic-Plastic Structure Damping Bearing Meng Liu	
14:24	Next-Generation Modular Expansion Joints for Bridges – "Smart" And Easily Replaceable in Order to Minimise Life-Cycle Costs Pascal Savioz	
14:36	The First Step towards BIM Models in Major Bridge Design Uffe Graaskov Ravn	
14:48	Numerical Analysis of Top-Down Construction Method of High-Rise Buildings and its Effects on Substructures with their Corresponding Heights Dhyaa.A.H.Abualghethe	
15:00	Modeling and Optimization for The Tensile Properties of 3D-Printed FRP using Artificial Neural Network and Artificial Bee Colony Algorithm Wael Alhaddad	
15:12	Discussion	

## Thursday, September 22, 2022 Parallel Sessions, Block 5

A2 & B3: Long span and high-rise structures - IV & Model updating, safety evaluation and reliability forecast - II		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Harshavardhan Subbarao, Wen Xiong	
14:00	<i>Nonlinear Coupling in Cable-Supported Bridges for Non-Analogous Modes</i> Sébastien Maheux	
14:12	<i>Conceptual Design of Long-Span Suspension Bridges: Tower Structural Forms</i> Marco Proverbio	
14:24	<i>Benefits and Challenges of the Twin-box Bridge Girder</i> Allan Larsen	
14:36	<i>Crack Control Technology in Construction of V-Shaped Piers of the Main Bridge of China-Maldives Friendship Bridge</i> Liang Xiang	
14:48	<i>Numerical examination in bridge responses due to fracture of truss member in a steel truss bridge under vehicle loadings</i> Sudanna Borjigin	
15:00	<i>Stress-strain Model Adapted to Bolted Connection in Ultimate Behaviour Considering Energy Absorption</i> Toshikazu Takai Kenshin Tanii	
15:12	Discussion	

B5: Maintenance, repair and retrofitting strategies		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: Zhihua Xiong, Wenming Zhang	
14:00	<i>Numerical Study on Influence of Input Wave's Frequency on Dynamic Pre-hole Isolation Pile-Soil Interaction in IABs</i> Ruihuan Fu	
14:12	<i>Corrosion suppression effect of bridge cables using environmental isolation paint</i> Kazuhiro Miyachi, Koji Kinoshita	
14:24	<i>Stability Analysis of a Super Long-Span Cable-Stayed Bridge in China</i> Longlong Chen	
14:36	<i>Fatigue Performance Evaluation of FRP Reinforced Steel Tubular K-Joint</i> Zhihua Xiong	
14:48	<i>A novel method for generating apparent panoramic image of real texture of concrete bridge based on multi-view registration</i> Dalei Wang	
15:00	Discussion	

## Thursday, September 22, 2022 Parallel Sessions, Block 6

A9: Innovative construction methods - II		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Jose Turmo, Yuan Sun	
16:00	<i>Shrinkage and Fatigue Performance of Novel Post-Combined Steel-UHPC Composite Decks</i> Yang Jiang	
16:12	<i>Effectiveness of incomplete welds in nodes of bridge truss girder nodes with hollow core profile members</i> Philippe Van Bogaert	
16:24	<i>Pseudo-Static Tests of Precast Bridge Pier with Half Grouted Sleeves</i> Qi Gao	
16:36	<i>Advancements in Timber Construction: A Review of Prefabricated Mass Timber Floor Assemblies</i> David Owolabi	
16:48	<i>Design and Construction of the West Kowloon Cultural District Artist Square Arch Footbridge</i> Alecs Kak Tien Chong	
17:00	<i>Innovative Construction Technique of Two Bridges in Hong Kong</i> Yau-Hong Chong	
17:12	Discussion	

A1 & C5 Mega structures (Projects) - II & Extreme and exceptional loads on structures - II		
Beijing Time GMT+8	Room: 205	OnAIR Room #2
	Chairs: Tina Vejrum, Limin Sun	
16:00	<i>Design of Rail Viaducts over the Hajar Mountains</i> Emmanuel Joy	
16:12	<i>Important Parameters for Increased Productivity in Bridge Design and Production</i> Johan Lagerkvist	
16:24	<i>Upgrading the 4th Ring Transportation Corridor in Zhengzhou, China - Optimized Camber Analysis for close to 1,200 Precast Bridge Frames</i> Gernot Komar	
16:36	<i>COWI Experiences in Chinese Mega Bridge Projects – Danish way and Chinese Way</i> Jinping Zhang	
16:48	<i>Numerical Investigation on Anchorage Zone Capacity of Post-Tensioned RPC</i> Moneef Mohamed Elobaid Musa	
17:00	<i>Analytical study on the effect of the condition of cable members on the structural safety of a long-span suspension bridge</i> Takao Kaneda	
17:12	Discussion	

B2: Evaluation and assessment techniques - II		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Tobia Zidan, Zhao Liu	
16:00	<i>Seismic Performance Evaluation of an Existing Vertical Irregularity Reinforced Concrete Building using Nonlinear Time-history Analysis</i> Samard Buddee	
16:12	<i>Experimental Investigation on Threshold for Corrosion-to-Fatigue Crack Transition of Corroded Steel Plate</i> Lee-Sak An	
16:24	<i>Probabilistic Corrosion Fatigue Life Evaluation based on Random Field Simulation</i> Lee-Sak An	
16:36	<i>Seismic performance assessment of multi-span continuous railway bridges across a symmetrical V-shaped canyon considering the near-source topographic effect</i> Shuai Li	
16:48	<i>Measurement the application of Pre-stressed CFRP laminates using Deep Learning for Computer Vision</i> Jónatas Valença	
17:00	<i>Inspection Information Preprocessing for Regional Bridge Condition Assessment</i> Chenhong Zhang	
17:12	Discussion	



## Thursday, September 22, 2022 Parallel Sessions, Block 6

B10: Bridge management systems		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Yaojun Ge, Yangwen Zhang	
16:00	<i>Proposal based on the social assessment methodology for a Chilean bridge collapse</i> Matias A. Valenzuela	
16:12	<i>Analysis of Influencing Factors of Track Static Geometric Deviation of Super-long-span HSR Bridge</i> Mangmang Gao	
16:24	<i>Bridge Management Systems – a crucial link to BIM</i> Vanja Samec	
16:36	<i>Design of a bridge digital twin system for intelligent operation and maintenance based on machine vision</i> Guogang Ying	
16:48	<i>Design and dehumidification effect of dry air dehumidification system inside the main cable</i> Wei Chen, Ruili Shen	
17:00	<i>Resilience Quantification based on Monitoring &amp; Prediction data Using Artificial Intelligence (AI)</i> Nikoleta K. Stamataki	
17:12	Discussion	

B1: Structural health monitoring -III		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: Seyedmilad Komarizadehasl, Ye Xia	
16:00	<i>Validation and Updating of Regional Bridge Deterioration Model Incorporating Structural Health Monitoring</i> Xiaoming Lei	
16:12	<i>A New Clustering Method for Damage Assessment of Fiber Reinforced Concrete Using Piezoelectric Transducers and A Wireless Impedance-Admittance Monitoring System</i> M.G. Sapidis	
16:24	<i>Numerical and Experimental Study on the Temperature Distribution of an RC Maglev Viaduct Based on Meteorological Monitoring</i> Ao Wang	
16:36	<i>Detection of Concrete Structural Surface Cracks Based on VQ-VAE-2</i> Jishu Wu	
16:48	<i>Beneficial Effect of Combining Similar Low-Cost Accelerometer to improve the overall Accuracy and Noise Density</i> Jose Turmo, Seyedmilad Komarizadehasl"	
17:00	<i>Experimental Verification of A Novel Accelerometer Intended For Structural Health Monitoring of Bridges</i> Seyedmilad Komarizadehasl	
17:12	Discussion	

SS3: Industrial Session: OVM Technology Forum		
Beijing Time GMT+8	Room: Jiqing Hall	
	OnAIR Room #6	
	Session Chairs: Shu Wen, Xu Jiang, Jing Wu	
14:00		<b>Opening Ceremony of OVM Technology Forum</b>
14:20	1	<i>Multimode Damping Enhancement for Cable Vibration Control: Theoretical and Technological Developments With Applications</i> Limin Sun
14:35	2	<i>Engineering Application of Self-anchored Integrated CFRP Cables</i> Peng Feng
14:50	3	<i>A Silanized MCNT/TPU-based Flexible Strain Sensor with High Stretchability for Deformation Monitoring of Laminated Elastomeric Bridge Bearings</i> Yong Yuan
15:05	4	<i>Planning, Design and Construction of Cable Stayed Bridge on River Zuari in the State of Goa, India</i> Atul Bhobe
15:20	5	<i>Study of Aerodynamic Performance on Concrete Deck Section in Stayed Cable Bridge</i> Tzyy Wooi TEH
15:35	6	<i>Planning, Design and Construction Aspects of Rod El Farag Cable-Stayed Bridge over River Nile, Cairo, Egypt</i> Mourad M. Bakhoun
15:50	7	<i>Implementation of OVM Prestressing System in Southeast European Infrastructure Projects</i> Bojan Arandjelovic
16:05	8	<i>Structural System Conception and Overall Design of a Maga Suspension Bridge with Four Main Cables</i> Yuancheng Peng
16:20	9	<i>Design of The Main Structure of The Pi River Water Viaduct</i> Hongguang Xu
16:35	10	<i>The Overall Design and Application of M280 Cable System of The Mingyuexia Yangtze River Bridge of Chongqing Donghuan Railway</i> Kejian Chen
16:50	11	<i>Key Construction Technology of Single Tower Suspension Bridge</i> Jian Yang
17:05	12	<i>Structural Form Selection of Nanpanjiang Bridge in Puzhehei</i> Xu Hou
17:20	13	<i>Research on Bridge Intelligent Cable Technology and Management Platform</i> Dongming Feng
17:35	14	<i>Study of Intelligent Bridge Cable Technology and Maintenance Management Platform</i> Yiqing Zou
17:50		<b>Closing Ceremony of OVM Technology Forum</b>

## Friday, September 23, 2022 Parallel Sessions, Block 7

A2: Long span and high-rise structures - V		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Ho-Kyung Kim, Wenming Zhang	
8:30	<i>Analytical Methods to Adjust the Distribution of Dead Loads of a Suspension Bridge with Three Cable Planes to Three Cables in the Transverse Direction</i> Wenming Zhang	
8:42	<i>Stability Analysis of a Super Long-Span Cable-Stayed Bridge in China</i> Xing Zheng, Qiao Huang	
8:54	<i>Axial Force Transfer Mechanism of Steel-concrete Joint in Hybrid Girder for Railway Cable-stayed Bridge</i> Taiqi Wang	
9:06	<i>The Analysis of the Non-Axial Force Connection for the Earth-Anchored Cable-Stayed Bridge</i> Yajun Zhang	
9:18	<i>A Novel Form-Finding Analysis Method for Suspension Bridges with Spatial Cables Considering Main Cable Flexural and Torsional Stiffness</i> Gen-min Tian	
9:30	<i>Structural Performance and Cost Analysis of Multi-span Extradosed Cable-Stayed Bridge</i> Zhihua Xiong	
9:42	Discussion	

A7: Advanced numerical models and simulations - III		
Beijing Time GMT+8	Room: 205	OnAIR Room #2
	Chairs: Debra Laefer, Kefei Li	
8:30	<i>Numerical Analysis of Bolted Connectors in Prefabricated Steel-Lightweight Aggregate Concrete Composite Beams</i> Wei Wang	
8:42	<i>Experimental and Numerical Study of Welding Residual Stress Distribution in Shear Keys</i> Junhui She	
8:54	<i>Numerical Simulation Analysis of the Connection Structure Between the Pier and Pile Cap of Precast Concrete Bridge Piers</i> Wenjun Li	
9:06	<i>Finite Fault Source Model for Ground Motion near Fault Zone</i> Yuan Qiu	
9:18	<i>Numerical Fatigue Simulation of Access Hole Detail in Orthotropic Steel Bridge Deck</i> Qian Wang	
9:30	Discussion	

## Friday, September 23, 2022 Parallel Sessions, Block 7

C4 & C6: Reducing risks of fire and other man-made hazards & Climate Change		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Chunsheng Cai, Peng Feng	
8:30	<i>Performance of simply-supported steel bridge in realistic fires</i> Zhi Liu	
8:42	<i>Flutter Behavior and Stability Evaluation of Suspended Footbridge through Wind Tunnel Experiments and Aeroelastic Flutter Analysis</i> Sang Hyeon Lee	
8:54	<i>Effect of Firewall on a Suspension Bridge under Vehicle Fire</i> Keunki Choi	
9:06	<i>Risk Management Methodology GRDR. Application on Chilean Tunnels and Bridges</i> Hernán Pinto, Lorena Jorquera, Matias Valenzuela	
9:18	<i>Influence of Environmental Variables on Chloride Ion Distribution on Concrete Surface Under Dry-Wet</i> Xiaokang Cheng	
9:30	<i>Comparative Analysis of Carbon Emission of Special-Shaped Concrete Pier Constructed by 3D Printing and Traditional Construction</i> Chengxiu Jia	
9:42	Discussion	

A5: High and ultra-high performance materials - III		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Zhao Liu, Qian Wang	
8:30	<i>Numerical Simulation on Seismic Performance of HPS-UHPFRC Composite Pier-foundation Embedded Joint</i> Qian Wang	
8:42	<i>Analytical Study on Tubular Flange Girder Bridges Using High Strength Steel</i> Qingling Li	
8:54	<i>Flexural Behavior of a New Steel-UHPFRC Composite Beam with in-Built Steel Dowel as Connector</i> Xiujiang Shen	
9:06	<i>Punching Behavior of a Novel Steel-UHPFRC Composite Bridge Deck Slab</i> Xiujiang Shen	
9:18	<i>Creep Effect and Time-Varying Reliability Analysis of Prestressed Continuous Rigid Frame Bridge</i> Junyi Xiao	
9:30	Discussion	

B7: Strengthening and repurposing of structures		
Beijing Time GMT+8	Room: 203-3	OnAIR Room #5
	Chairs: Dongzhou Huang, Chen Xu	
8:30	<i>Fatigue Tests on Compact-tension Specimens Repaired by CFRP</i> Yuanpeng Zheng	
8:42	<i>Analytical study on slip strength of long bolted joint combing with bearing type bolts</i> Yu Chen	
8:54	<i>Fatigue performance of cracked bridge diaphragm repaired by SMA/CFRP composite patch</i> Yapeng Wu	
9:06	<i>Lifting and Rehabilitation of 5 Highway Overpasses in Brazil</i> Caio Nogaroli Boecker	
9:18	<i>Failure Mechanism Analysis of Circular CFRP Components Under Unequal Impact Load</i> Khalil AL-Bukhaiti	
9:30	Discussion	

Friday, September 23, 2022 Parallel Sessions, Block 8

A2: Long span and high-rise structures - VI		
Beijing Time GMT+8	Room: 201	OnAIR Room #1
	Chairs: Wen Xiong, Yaping Lai	
10:30	Behavior of Long-span Suspended Footbridge Under Wind Loads Soomin Kim	
10:42	Design and Construction of Chongqing Lijia Jialing River Bridge Ya-ping Lai	
10:54	Challenges in Design and Construction of WONJU 404 SKYBRIDGE in Korea Sang-Hun Shin	
11:06	Conceptual Design of 5km-Class Super Long Span Bridge Chang-Su Kim	
11:18	Prediction of Aerodynamic Coefficients using Artificial Neural Network in Shape Optimization of Centrally-Slotted Box Deck Bridge Mohammed Elhassan	
11:30	Study on measures to Improve Natural Vibration Characteristics of three-Towers and four-Span suspension bridge during Construction Ming Gong	
11:42	Discussion	
C7: Fatigue and fracture		
Beijing Time GMT+8	Room: 205	OnAIR Room #2
	Chairs: Huating Chen, Huaiguang Li	
10:30	A Bayesian Regularization Neural Network Model for Fatigue Life Prediction of Concrete Zhenyu Sun	
10:42	Mixed Mode Fatigue Crack Propagation Mechanism of the Diaphragm Cutout Detail Chunsheng Wang	
10:54	Fatigue Crack Propagation Characteristics of The Rib to Deck in Steel Bridge Deck Chunsheng Wang	
11:06	Fatigue Resilient Design of Bridge Orthotropic Steel Deck Wenli Fan, Huaiguang Li	
11:18	Parameter Analysis on Double-side Welded Connection of Orthotropic Steel Decks Based on Structural Stress Kai Sun	
11:30	Discussion	

Friday, September 23, 2022 Parallel Sessions, Block 8

C11: Aesthetics in structural design		
Beijing Time GMT+8	Room: 203-1	OnAIR Room #3
	Chairs: Rui Zhou, Yu Zou	
10:30	Design consideration including construction stage analysis for the Cable Stayed Bridge (FB01-Marina bridge) in Port City Colombo Bharath Kumar Amaranath, Tiju Zachariah	
10:42	Compassion Essence of Beauty from Triunity of Bridge-CAD Zhibo Teng	
10:54	Fire Risk Evaluation of Cable Bridges due to Vehicle Fires Youn-Ki Son	
11:06	Influence of time-varying mean winds on the nonlinear buffeting responses of a super long-span suspension bridge Rui Zhou	
11:18	Discussion	
B1 & B4: Structural health monitoring - IV & Innovative inspection techniques - II		
Beijing Time GMT+8	Room: 203-2	OnAIR Room #4
	Chairs: Chunsheng Cai, Limin Sun	
10:30	Research on the damping ratio variation of vehicle bridge interaction system based on the complex mode method Fengzong Gong	
10:42	Bridge Performance Prediction Approach Based on Improved Particle Filter and Structural Health Monitoring Data Guang Qu	
10:54	An Experimental Investigation of the Indirect Bridge Frequency Identification Xudong Jian	
11:06	A fully automated and noncontact method for force identification of cables based on microwave radar Jinghang Weng	
11:18	Discussion	



# SUPPORTING ORGANISATIONS

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## Introduction

Founded in 2003, as a wholly owned subsidiary company of the Cross Bridge Construction Co., Ltd, the Cross Bridge Huadong Engineering Company is registered in Shanghai Pudong New area, with registered capital of 301M RMB. The Cross Bridge Construction Co., Ltd is the first listed company , under China Communications Construction Co., Ltd, in domestic highway construction industry and received special grade qualification as general contractor of highway construction.

The firm has been awarded the following certificates, including A Level qualification as General Contractor of Highway Construction approved by Ministry of Housing and Rural-urban Development of PR China, A Level Qualification as General Contractor of Municipal Utilities Construction, C Level Qualification as General Contractor of Port and Waterway project , A Level Qualification as Specialized Contractor of Bridge Project, A Level Qualification as Specialized Contractor of Highway Pavement Project, A Level Qualification as Specialized Contractor of Highway Sub grade Project, B Level Qualifications Specialized Contractor of Tunnel Project and C Level Qualification as Specialized Contractor of Steel Structure project.

The company received "the Luban prize for Construction Project ", "the Tien-yow Jeme Civil Engineering Prize",

"National Quality Project Gold Award", "First Class Prizes of The State Scientific and Technological Progress Award", "Shanghai Magnolia Award for Construction Project", "Shanghai municipal engineering gold medal". The management level and projects quality was appreciated by Party and state leaders during their site visit.

As an integrated multi business structure, primarily targeting the construction of cross-sea bridge and grand bridge, our business spans highway, railway, tunnel, municipal projects and mechanism renting and we strive to be involved in subway, underground tunnel and urban complex project. We operate in Shanghai, Zhejiang, Jiangsu, Hunan, Hubei, Chongqing, Guizhou, Guangxi and Southeast and Africa oversea market.

To be recognized as one of the core company of Cross Bridge Construction Co., Ltd, with distinct main business, good business performance, efficient management system and be competitive, we are commitment to our core value "Fair, Inclusive, Practical, Innovative ". We respect that "A man who wants to go far he should build a solid foundation first". We strive to be a first class integrated infrastructure construction value chain supplier and we endeavor to make a "better world, better city and better life".

## Business distribution



## Qualifications & Honors



中国·四川公路桥梁建设集团有限公司

CHINA.SICHUAN ROAD & BRIDGE (GROUP) CO.,LTD. (SRBG)

SRBG WAY TO THE LAND UNDER THE HEAVEN

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Sichuan Road&Bridge (Group) Co.Ltd. (SRBG) with registered capital of RMB 6 billion is a state-owned key enterprise of Sichuan province and one of the core subsidiaries of Sudao Investment Group Co.Ltd.It owns qualifications of top grade for national highway engineering, general contracting and grade A for highway industry design, mainly engaged in investment, construction and operation of infrastructures including highway, railway, municipal engineering etc. SRBG has built series of world-class transportation infrastructures including the 1915 Canakkale bridge (steel box-girder installation) in Turkey, the Xihoumen bridge in Zhoushan, Zhejiang province of China, the Hålogaland bridge in Norway and the Luding Dadu river bridge in Sichuan province of China.

SRBG adheres to the development philosophy "servingthecountry,developingtransportation, benefiting the people" and carry forward the spirit of new era—" overcoming difficulties, making contributions and striving for breakthrough" . SRBG is committed to developing itself into a first-class enterprise with social responsibility, sustainability and innovation-driven development. It is also making positive contributions to the development of Sudao group in establishing a domestic-leading, world-class transportation infrastructure enterprise.



Yibin Lingang Rail-cum-road Yangtze River Bridge



Luding Dadu River Bridge



Xihoumen Bridge





# 中交一公局集团有限公司

CCCC FIRST HIGHWAY ENGINEERING GROUP CO.,LTD.

Established as a core subsidiary of China Communications Construction Company Limited (CCCC) ranked among the Fortune Global 500, China First Highway Engineering Company Limited is an industry-leading large-scale infrastructure service provider which integrates business of consulting and planning, investment and financing, design and construction, and management and operation.

With a profound history, China First Highway Engineering Company Limited was subordinated under the Ministry of Transport of P.R.C (MOT) in 1963, then the company incorporated into China Road and Bridge Corporation (CRBC) in 1999, it was then transferred to China Communications Construction Company Limited (CCCC) in 2005, and incorporated by strategic restructuring of CCCC First Highway Engineering Co., Ltd. and CCCC Tunnel Engineering Company Limited in 2018. At present, the Company has over 24,000 employees working for more than 90 subsidiaries and branches with distinctive professional characteristics. Owing more than 260 qualifications including a Special Class Qualification for Highway Construction General Contracting, Housing Construction General Contracting Qualification, and a Class-A Qualification for Engineering Investigation; Playing the advantages of integrated services of investment, construction and operation in the entire industry chain, the Company has been awarded "National Civilized Unit", "National Excellent Constructor" and other honors, and has become the first subsidiary of CCCC to have total assets, annual newly signed contract amount and operating revenue all exceeding CNY 100bn. Moreover, it has also been listed as a contact point for Party building of state-owned enterprises and a participant in the "double-hundred action" reform of state-owned enterprises.

In its great efforts to build "specialized, sophisticated, distinctive and innovative" projects, the Company has made outstanding achievements in the fields of extra-large bridges, long tunnels, super-large shield tunneling machines, super high-rise buildings, comprehensive development of large cities, etc., breaking through and achieving excellent reputation in a number of "bottle-neck" technologies. Meanwhile, as one of the first large state-owned corporations in China to enter the international construction market and a pioneer in China-Africa cooperation, it has participated in the construction of several "Belt and Road Initiative" (BRI) benchmark projects. Through years of hardwork, the Company has built the brands of Chinese highways, Chinese bridges, Chinese tunnels, CCCC tracks and CCCC cities, with these first-class brand of multiple business areas, complete value chains and systems, perfected systems with advanced concept and leading technology



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CHINA RAILWAY CONSTRUCTION BRIDGE ENGINEERING BUREAU GROUP CO., LTD.

## PAST

We, who used to be the railway engineering corps, were endowed with "red genes" and invincible spirits.

We, who were born to be the bridge-builder, were getting stronger with more bridges built by us.

For more than 70 years, we have been building roads in mountains, stepping on every inch of this land and growing up with our country.

For more than 70 years, we have been building roads in mountains, stepping on every inch of this land and growing up with our country.

## PRESENT

We, among the Fortune Global 500, boast five special qualifications and five Grade-A qualifications.

We have set over 20 records of top bridges in the world and over 30 records in China. We have built 18 bridges across the Yellow River, 14 bridges across the Yangtze River, 15 across the ocean bay, 5 across the Wujiang River, 4 across the Songhua River, to name but a few.

We have built more than 80 express rail lines, 30 high-speed rail lines and nearly 200 highways, built over 200 urban rail transit projects in 40 cities of China, undertaken more than 80 water conservancy and hydropower projects, and had infrastructure projects in more than 20 countries.

## FUTURE

We will remain true to our original aspiration and adhere to the ingenuity, creating a better life, and interpreting the character of our enterprise.

We will continue to attach great importance to quality and strive for the dream of building bridges, making impossible possible, and demonstrating extraordinary Chinese construction abilities.





China Railway Jiujiang Bridge Engineering Co., LTD (hereinafter refers to as "CRBE") was established in 1971. It is affiliated to China Railway Group Limited, a Fortune 500 company, and is a core member of China Railway High-tech Industry Co., Ltd. CRBE is a national high-tech enterprise integrating steel girder manufacturing and installation, bridge construction, bridge machine development, technology testing, and bridge deck paving, providing comprehensive services for steel bridge manufacturing and erection.

**Location:** CRBE is located in Jiujiang City, Jiangxi Province, central China, with a 1.5-kilometer golden shoreline of the Yangtze River, with very convenient water and land transportation.

**Qualification Certificate:** CRBE has obtained a number of general contracting and professional contracting qualifications in the bridge industry chain of municipal, highway, railway, steel structure, bridge, bridge deck paving, lifting equipment installation, etc., and has a full set of related professional products manufacturing license and installation qualifications.

**Achievements:** over the past 50 years, CRBE has participated in the construction of more than 1000 Bridges, including famous domestic Yangtze River-crossing bridges such as Shanghai - Nantong Bridge, Nanjing Dashengguan Bridge, Wufeng Mountain Bridge, Anhui Tongling Bridge, Jiangxi Jiujiang Bridge, Wuhan Tianxingzhou Bridge, Anqing-Jiujiang Railway Bianyuzhou Bridge, Yichang Wujiagang Bridge; and world-famous bridges such as Hong Kong - Shenzhen Western Corridor, Padma Bridge in Bangladesh, Da Nang Shun Phuc Bridge, etc.

**R&D capability:** CRBE is the national enterprise technology Center, Jiangxi provincial enterprise Technology Center, Jiangxi Provincial Industrial Design center. The bridge technology research institute of CRBE is the Jiangxi Steel Bridge and Special Equipment engineering research center, and the only steel structure bridge engineering research center in the province; the Engineering technology research center of Jiujiang, Wuhan University of Technology steel bridge technology research center, undergraduate education practice base.

**Production capacity:** The company's Jiujiang base covers a total area of 400,000m<sup>2</sup> and a plant area of 350,000m<sup>2</sup>. There are several assembly sites for large-size steel beam and bridge construction equipment, and all kinds of equipment for steel beam manufacturing and bridge construction, totaling 800 sets. The annual design and manufacturing capacity of steel beams is more than 200,000 tons, and the manufacturing capacity of large-scale bridge construction equipment is more than 50 sets. At the same time, the company has established a number of steel beam processing bases in Hubei Wuhan, Guizhou Huishui, Anhui Chizhou, Henan Yuanyang, Jiangnan Nanchang, Yunnan Chuxiong, Bangladesh, Laos and other countries, with an annual design and manufacturing capacity of more than 400,000 tons of steel beams.

**Honors and Awards:** CRBE has won 19 times China Construction Engineering Luban Prize, 16 times the National Excellent Welding Award, 10 times the Zhan Tianyou Civil Engineering Award, 10 times the National Science and Technology Progress Prize, 10 National Quality Projects Award, 6 times Chinese Steel Structure Gold Award, 4 times International "George Richardson" Award, 3 times Outstanding Bridge Structural Engineering Award of International Bridge Association, 2 times International bridge conference "Theodore Cooper(railway bridge)" Award, 1-time FIDIC Project Award, 1-time "Li Chun" Award for Highway Traffic Quality Engineering.



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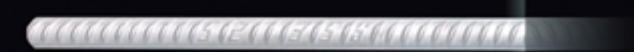
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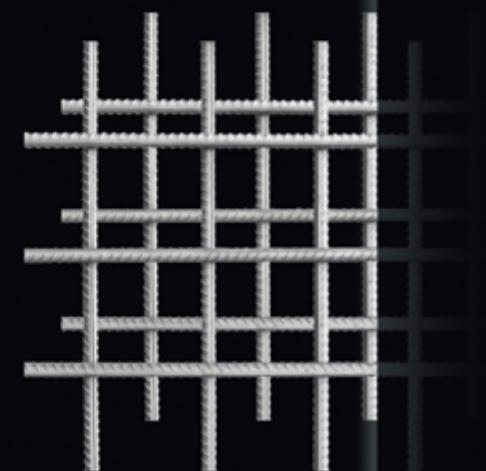
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# ABOUT NANJING

Nanjing, the ancient city situated in the heartland of lower region of Yangtze River, has long been a major center of culture, education, research, politics, economy, transport networks and tourism in China. It is the capital city of Jiangsu province and the second largest city in the East China region, with a population of 8.5 million.

Nanjing is also known as the cradle of Chinese civilization. Built in memory of Confucius, the Confucius Temple was the first national level highest academic institution of ancient China. It is a must-visit place now for the shopping and pedestrian street not far from it, offering all kind of authentic Nanjing snacks and featured souvenirs, such as stationery treasures for calligraphy and painting, teapot and tea, Suzhou embroidery, cheongsam. Dined and wined to satiety, we can choose to boat on the Qinhuai River with old buildings up to 600 years standing on both banks, enjoying the beautiful night scenery along, or walk along the Ming Dynasty City Wall to see the vicissitude of history.

In addition, Nanjing has a wide variety of delicious cuisine. The dishes made of duck have a long history and are quite popular among local people. Other Nanjing specialties also show the perfect combination of color, aroma and taste.

Here in Nanjing, beside scenic spots, historical sites and excellent cuisine, you can appreciate the elegant Kunqu Opera and melodious Pingtan in theater and Chinese tea house.

Looking forward to meeting you in Nanjing!



Confucius Temple Shopping and Pedestrian Street

Scenery along Qinhuai River



Ming Dynasty City Wall

Qixia Temple (Buddhism)

Jiming Temple (Buddhism)

# ABOUT IABSE

## About IABSE

The International Association for Bridge and Structural Engineering was founded in 1929. The mission of IABSE is to promote the exchange of knowledge and to advance the practice of structural engineering worldwide in the service of the profession and society. To accomplish the mission, IABSE organizes conferences and symposia, publishes journals and reports, and also presents awards to recognize outstanding achievements in research and practice that advance the profession of structural engineering.

Jungholzstrasse 28  
8050 Zurich, Switzerland  
[www.iabse.org](http://www.iabse.org)

Phone no: +41 43 433 97 65  
E-mail: [secretariat@iabse.org](mailto:secretariat@iabse.org)

## Further information of IABSE Congress Nanjing 2022

Dr. Ye Xia  
Department of Bridge Engineering, Tongji University  
1239 Siping Rd., Shanghai 200092, China

Dr. Wenming Zhang  
Department of Bridge Engineering, Southeast University  
2 Sipeilou Rd., Nanjing 210096, China

Phone: (+86)-020-8639 5053  
[www.IABSE.org/Nanjing2022](http://www.IABSE.org/Nanjing2022)

## Contact Congress Secretariat

Dr. Yekai Chen  
International Department of BRIDGE MAGAZINE  
Phone: 18310464456

Miss Bing Wang  
International Department of BRIDGE MAGAZINE  
Phone: 18233144880

[iabse2022nanjing@tongji.edu.cn](mailto:iabse2022nanjing@tongji.edu.cn)

