







International Conference on Civil Infrastructure and Construction

2-5 February 2020 Doha, Qatar



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ABOUT

Welcome to the International Conference on Civil Infrastructure and Construction (CIC2020). The aim of the conference is to provide a platform to discuss next-generation infrastructure and its construction among key players such as researchers, industry professionals and leaders, local government agencies, clients, construction contractors and policymakers in the construction industry. The central theme of the conference is Civil Infrastructure and Construction with special emphasis on important aspects for the industrial sector such as sustainability, innovation, and technological impact.

ORGANIZATION

The conference is organized by Qatar University, the Public Works Authority (Ashghal) and the Ministry of Municipality and Environment (MME). The conference is held at Grand Hyatt Doha Hotel.

HIGHLIGHTS

- Research and technological advancements in civil infrastructure and construction
- Case studies lessons learned
- Best practices in infrastructure development and construction
- Bringing experiences of practitioners, policy makers and research scholars together

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Organizing Committee

Dr. Okan Sirin

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Member, Qatar University

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Eng. Ahmad Al-Ansari

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Member, Qatari Diar

Mr. Ali Feraish Al-Salem

Member, Ministry of Municipality and Environment

Dr. Khaled Al-Akhras

Member, Ministry of Municipality and Environment

KEYNOTE SPEAKERS



Kancheepuram "Guna" N. Gunalan President American Society of Civil Engineers (ASCE), USA



Rachel Skinner Vice President and President-elect Institution of Civil Engineers (ICE), UK



Randy Black Chair of 2019 Board of Directors Project Management Institute (PMI), USA



Yaojun Ge
Professor, Tongji University
President - elect of the International Association
for Bridge and Structural Engineering (IABSE)



Robert MairProfessor, University of Cambridge
Ex-President of the Institution of Civil Engineers (ICE), UK



Tarek Zayed
Professor
Construction Engineering and Infrastructure Management
The Hong Kong Polytechnic
University, Hong Kong

EXECUTIVE SPEAKERS



Dr. Yousef Al HorrGulf Organization for Research
& Development (GORD)



Dr. Abdulla Y. Al-Sayed Qatari Diar



Eng. Ahmad Al-Ansari Public Works Authority (Ashghal)



Eng. Abdulla Ahmed Al-Karrani Ministry of Municipality and Environment



Eng. Othman Zarzour Supreme Committee for Delivery and Legacy



Eng. Mubarak Mahboub Al-Naimi Ministry of Municipality and Environment



Eng. Sheikh Khalid Al-Thani Qatar Rail



Eng. Meshal M. Al-Shamari Qatar Green Building Council

THEMES & TOPICS

Theme 1: Construction Management and Process

- · Infrastructure construction and management
- Information technology in infrastructure and construction management
- Infrastructure life-cycle cost analysis (LCCA) and assessment (LCA)
- · Resilient civil infrastructure systems
- · Engineering management challenges in smart cities
- · Organizational behavior and management of mega projects
- Lean construction
- Construction productivity
- Occupational health and safety in construction
- · Infrastructure risk management
- · Quality management in infrastructure and construction

Theme 2: Materials and Transportation Engineering

- Use of recycled materials in road construction
- Innovative pavement materials and design
- Pavement maintenance and rehabilitation techniques
- · Pavement materials characterization
- · Advances in warm-mix asphalt technologies
- · Traffic control, simulations and operations
- · Road user behavior analysis and modeling
- · Intelligent transportation systems
- · Traffic safety analysis and policy
- Sustainable public transport
- Logistics and freight transport operations
- Railway engineering

Theme 3: Geotechnical, Environmental and Geo-environmental Engineering

- Tunnels and tunneling (including micro tunneling)
- · Deep excavation and retaining structures
- Stability of slopes
- Stability of offshore, nearshore, and onshore oil, gas, and water pipelines
- Case studies in infrastructure geotechnics
- · Advanced urban drainage systems
- Comprehensive water resources management
- Advanced wastewater treatment processes
- Advances in landfill design
- Fate and transport of contaminates in subsurface systems
- Multiphase flow through porous media
- Nondestructive imaging and visualization of pore-scale processes
- Environmental noise and vibration

Theme 4: Sustainability, Renovation and Monitoring of Civil Infrastructure

- Sustainable materials and solutions
- · Advanced and non-corrosive composite materials
- · Concrete and masonry structures
- Reinforced concrete structures
- Steel structures
- Infrastructure strengthening and rehabilitation
- · Computational methods and soft computing in civil engineering applications
- Structural control and health monitoring
- · Sustainable systems in infrastructure and construction
- Non-destructive leak detection in water and sewer networks
- · Civil infrastructure assessment and hazardous risk mitigations of civil engineering systems
- · Advanced measurements in civil engineering

INTERNATIONAL CONFERENCE ON CIVIL INFRASTRUCTURE AND **CONSTRUCTION (CIC 2020)**

FINAL PROGRAM

FEBRUARY 2-5, 2020 GRAND HYATT DOHA HOTEL



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13:10-14:10	CHAIR OF 2019 BOD-PMI, USA	NDY BLAC	CK AI, USA	₹ 8	Keynote: PROF. YAOJUN GE PRESIDENT OF IABSE, CHINA	OF. YAO	JUN GE CHINA	HONG K	Keynote: PROF. TAREK ZAYED HONG KONG POLYTECHNIC UNIV.	F. TAREK	ZAYED : UNIV.				
14:10-14:30	Coffee/Networking Break	working	Break	So Co	p Coffee/Networking Break	working	Break	ა ლე	Coffee/Networking Break	working	Break	Visit	Field Trip Visit to Maior Infrastructure	Field Trip Jaior Infrastr	ucture
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14:30-13:20	Dr. Abdulla Y. Al-Sayed	Y. Al-Saye	9	Eng. A	Eng. Abdulla Ahmed Al-Karrani	med Al-K	arrani	Eng. Mu	Eng. Mubarak Mahboub Al-Naimi	boub Al-	Naimi			E	
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SAFARI IRIP: February 1, 2020 (14:00-18:00) REGISTRATION: Registration Desk will be open to collect your conference bags on February 1, 2020 (16:00-20:00)

KEYNOTE SPEAKERS

	D A Y 1 : February 2, 2020 (S U N D A Y)	Venue: Al Silia Ballroom
11:00-12:00	Dr. Kancheepuram N. Gunalan , President of the Americal Engineers (ASCE), USA <u>Presentation Title:</u> Geotechnical Aspects of Mega Transportuture	·
13:10-14:10	Randy Black, Chair of 2019 Board of Directors, Project Ma (PMI), USA Presentation Title: Welcome to the Project Economy: Glo Projectized Future of Construction and Civil Engineering	_
	D A Y 2 : February 3, 2020 (M O N D A Y)	Venue: Al Silia Ballroom
9:00-10:00	Rachel Skinner, Senior Vice President, Institution of Civil E of Transport Presentation Title: Connectivity, carbon and change: Tow outcomes by 2040	
13:10-14:10	Prof. Yaojun Ge, Professor, Tongji University, China and President of the International Association for Bridge and Structural Engineering (IABSE) Presentation Title: Scientific Discovery, Technological Innovation and Engineering Creation in Bridge Engineering	
	D A Y 3 : February 4, 2020 (T U E S D A Y)	Venue: Al Silia Ballroom
9:00-10:00	Prof. Lord Robert Mair, Professor, University of Cambridge, UK Presentation Title: Smart Civil Engineering Infrastructure and Construction	
13:10-14:10	Prof. Tarek Zayed, Professor and Director of MSc/PgD Professor and Real Estate, The Hong Kong Polytechnic University, House Presentation Title: BIM - Driven Facility Management of E	ong Kong

EXECUTIVE SPEAKERS

	D A Y 1 : February 2, 2020 (S U N D A Y)	Venue: Al Silia Ballroom
14:30-14:55	Dr. Yousef Al Horr, Chairman, Gulf Organization for Research Presentation Title : Sustainability in the Built Environment in Opportunities	
14:55:15:20	Dr. Abdulla Y. Al-Sayed, President, Lean Construction Institut Presentation Title: Barriers and Enablers of Implementing Least top: 1.5.	1 1
	D A Y 2 : February 3, 2020 (M O N D A Y)	Venue: Al Silia Ballroom
14:30-14:55	Eng. Ahmad Al-Ansari, Technical Office Manager, Public Wor Presentation Title: Re-engineering of Constructive Supply Cha	
14:55:15:20	Eng. Abdulla Ahmed Al-Karrani, Director of Urban Planning D National Master Plan, Ministry of Municipality and Urban Plan Presentation Title: Integrating National Policies to Deliver Co	nning (MME)
	D A Y 3 : February 4, 2020 (T U E S D A Y)	Venue: Al Silia Ballroom
14:30-14:55	Eng. Othman Zarzour, Competition Venues Executive Direct Delivery and Legacy Presentation Title: Qatar World Cup Stadium Projects: Plan Learned @ 80% Completion	
14:55:15:20	Eng. Mubarak Mahboub Al-Naimi, Engineering Affairs Specia Undersecretary for Planning Affairs Office – Ministry of Munic Presentation Title: How the Infrastructure Engineering Guide Style	cipality and Environment
	D A Y 4 : February 5, 2020 (W E D N E S D A Y)	Venue: Al Silia Ballroom
9:00-9:30	Eng. Sheikh Khalid Al-Thani, Qatar Rail Presentation Title: Overview of Doha Metro	
9:30-10:00	Eng. Meshal M. Al-Shamari, Director of Qatar Green Building Presentation Title: Bridging the Gaps For a Sustainable Const	

PARALLEL SESSIONS

	D A Y 1 : February 2, 2020 (SUNDAY)	
	Session 1A: Construction Management and Process	
Time	Session Chair: Murat Gunduz, Qatar University Venue: Room Ghaf	
15:20-15:40	Performance of University-Construction Industry Collaboration: A Systematic Literature Review and Research Agenda. Ziad Al-Gasim, Aslan Amat Senin and Mohd Effandi Bin Yusoff	
15:40-16:00	Variation Orders in Building Projects in Khartoum State-Sudan: The Causes and the Impact on Projects Performance. <i>Eltahir Elshaikh and Salma Mahmoud</i>	
16:00-16:20	Unfair Payment Issues in Construction: Re-thinking Alternative Payment Method for Tier-1 Contractors to Subcontractors. <i>Laura Peter Swai, Andrew Oyen Arewa and Rex Asibuodu Ugulu</i>	
16:20-16:40	Project Management: Key Initiatives Case Study. <i>Khaled Al Nass, Lavinia Melilla, Mohamed Tolba</i>	
16:40-17:00	Asphalt Rideability Specification and Construction of Expressways in Qatar. <i>Roger James Hodgson, Ali Kara</i>	
	Session 1B: Materials and Transportation Engineering	
	Session Chair: Wael Al Nahhal, Qatar University Venue: Al Silia Ballroom	
15:20-15:40	Modelling the Severity of Plastic Shrinkage in Cementitious Materials. Faez Sayahi, Mats Emborg, Hans Hedlund, Andrzej Cwirzen, Marcin Stelmarczyk	
15:40-16:00	Optimum Dispersion Parameters of Carbon Nanotubes: Concrete Strength by Response Surface Methodologies. <i>Mohamed Mohsen, Mohamed Al Ansari, Ramzi Taha, Ahmed Senouci, Ala AbuTaqa</i>	
16:00-16:20	Improving Concrete Durability by Using Optimized Aggregate Gradation and Reducing Cement Content. <i>Hung-Wen Chung, Thanachart Subgranon, Mang Tia</i>	
16:20-16:40	Effect of Alkaline Activators on the Mechanical Properties of Geopolymer Mortar Mohamed Rabie, Mohammad R. Irshidat, Nasser Al-Nuaimi	
16:40-17:00	Advanced Freeze-Thaw Assessment of Internally Integrated Concrete with Sodium Acetate Mazen J. Al-Kheetan, Mujib M. Rahman, Seyed Hamidreza Ghaffar	
	Session 1C: Geotechnical, Environmental, and Geo-environmental Engineering	
	Session Chair: Mohammed Elshafie, Qatar University Venue: Room Samr	
15:20-15:40	Geotechnical Aspects of Sub-Sea Tunneling on the Musaimeer Pumping Station and Outfall Tunnel Project. <i>Gary Peach, Mirjana Hrnjak, Ioannis Papadatos, Hernan Vigil</i>	
15:40-16:00	Box Jacking/Pushing Method for Tunnel Construction in Rock: Doha Metro, Gold Line Project. Spyridon Konstantis, Spyros Massinas	
16:00-16:20	Embedded Retaining Wall Design and Performance Monitoring for Deep Excavation in Geological Conditions of Qatar. <i>Muhammad Humza, Ghulam Sarwar, Majid Naeem, Gorkem Dora</i>	
16:20-16:40	The Use of Measuring While Drilling and Wireline Logging to identify the Geological Strata in Qatar. <i>Anna Grace Gravador-Villamor, Fay Pearce</i>	
16:40-17:00	Investigation of the Effect of the Force-Frequency on the Behaviour of a New Viscous Damper for Railway Applications, <i>Yousif Badri, Mohammed Hussein, Sadok Sassi, Jamil Renno</i>	
	Session 1D: Sustainability, Renovation, and Monitoring of Civil Infrastructure	
	Session Chair: Ramazan Kahraman, Qatar University Venue: Room Qurm	
15:20-15:40	Concrete Hydration Model Characterization Using Evolutionary Optimization. <i>Qianchen Sun, Mohammed Elshafie, Yi Rui</i>	
15:40-16:00	Latest Advances in Smart Components and Monitoring for Civil Structures. Thomas Richli, Antonios Chrysovergis, Achilleas Athanasiou, Niculin Meng	
16:00-16:20	Toward Sustainable Public Open Spaces for Promoting Human Comfort, Health and Well-Being: The Case of Oxygen Park in Doha, Qatar. <i>Eman Al-Fadala, Fodil Fadli</i>	
16:20-16:40	The Investigation of an Efficient and Effective Proactive Pipeline Integrity System. <i>Masoud Forsat, Abdelmagid S.Hamouda</i>	
16:40-17:00	Structural Efficiency of Steel Stiffening Deck Systems in Suspension Bridges Due to Gravity Loads. **Ahmed Gasim Hussein, Mohammed Faisal Fadlalbari**	

	D A Y 2 : February 3, 2020 (MONDAY)	
	Session 2A: Construction Management and Process	
Time	Session Chair: Ayman Abdul Salam, Gasab Projects Venue: Room Ghaf	
10:20-10:40	Positively Shifting the Mindset in Construction Using Non-Biodegradable Materials for Sustainable Construction: An Experimental Study. <i>Faheem Memon</i>	
10:40-11:00	Framework for Investigating the Level of Compliance to the OHS regulatory by the Small and Medium Construction Companies in Oman. <i>Mubarak Al Alawi, Mohammed Al Shahri and Amjaad Al Ghafri</i>	
11:00-11:20	Modelling Catchments in Qatar to Assist in Operations. Shirish Gokhale, Anil Kumar Gupta, Nasser Yousef Fakhroo, Kapil Devang, Tim Kelly	
11:20-11:40	Integration of Environmental and Sustainability Management Practices into Construction Industry: A Case Study. <i>Gary Peach, Dila Ersenkal, George Daoutis, Sotirios Koropoulis, Pavel Zuzula, Biliana Karamukova</i>	
11:40-12:00	Strategies for Communicating Health and Safety Information on Construction Sites in Nigeria. Samuel Abiodun Alara and Ibrahim Ibrahim Inuwa	
	Session 2B: Materials and Transportation Engineering	
	Session Chair: Charles Nunoo, WSP International Venue: Al Silia Ballroom	
10:20-10:40	Site-Specific Traffic Loading Estimation Challenges in Structural Pavement Design Process in Qatar: A Case Study. <i>Ahmad Al-Tawalbeh, Mohammed Sadeq, Husam Sadek</i>	
10:40-11:00	Reflective Crack Mitigation Using AST Interlayer Over Soil-Cement Base For Flexible Pavements Mohammad Reza-Ul-Karim Bhuyan, Mohammad Jamal Khattak	
11:00-11:20	Using Reclaimed Asphalt and Polymer Modified Asphalt (PMA) to Maximize Cost Saving Over the Pavement Life-Cycle in Qatar. <i>Jean Khnaizer</i>	
11:20-11:40	Use of Crumb Rubber Modified Binders and Asphalt Mixtures in Public Works Authority Road Projects - State of Qatar. <i>Ezio Santagata, Haissam Sebaaly, Osman Elhusain Mohamed Idris, Moaaz Hashim M.M. Ali, Khalid Mohd I Al-Emadi</i>	
11:40-12:00	Producing High Quality Recycled Hot Asphalt with Increased Reclaimed Asphalt Content- Qatar Experience. <i>James Maina, Jean Khnaizer</i>	
	Session 2C: Geotechnical, Environmental, and Geo-environmental Engineering	
	Session Chair: Riyadh I. Al-Raoush, Qatar University Venue: Room Samr	
10:20-10:40	An Analytical Review of Sustainable Green Building in Qatar: Implementations in the Architecture, Engineering and Construction (AEC) Sector. <i>Diala Al Midani, Fodil Fadli</i>	
10:40-11:00	Flood Risk Assessment and Protection Guidelines for Infrastructure Planning in Qatar. Abdullah Al Mamoon	
11:00-11:20	Influence of Water Table Fluctuation on Natural Source Zone Depletion in Hydrocarbon Contaminated Subsurface Environments. <i>Reem Ismail, Saeid Shafieiyoun, Riyadh I. Al-Raoush</i>	
11:20-11:40	Hydrogen Gas Production from the Injection of Nanoscale Zero-Valent Iron and Sodium Borohydride Solutions: Potential Effects Near Injection Wells. <i>Obai Mohammed, Kevin G. Mumford, Brent E. Sleep</i>	
11:40-12:00	Utilizing Steel Slag in the Removal of Suspended Solids from Dewatered Construction Water. Alaa Al Hawari, Abdelrahman Tariq, Ahmed T. Yasir, Mohamed A. Ayari	
	Session 2D: Sustainability, Renovation, and Monitoring of Civil Infrastructure	
	Session Chair: Fodil Fadli, Qatar University Venue: Room Qurm	
10:20-10:40	Dune Sand Mortar Effects on Deflections of Repaired Steel bars-Reinforced Concrete Beams. Madina Djeridane, Ali Zaidi, Mohamed Fatah Lakhdari	
10:40-11:00	Derivation of the Governing Differential Equation of Vibrating Host Plate with Two Piezoelectric Patches. <i>Wasim Barham, Khaldoon Bani-Hani, Mutaz Mohammad</i>	
11:00-11:20	Sustainability in Design and Construction: Reduce, Reuse, Recycle for Greener Qatar. Mohamed Tolba, Dr Lavinia Melilla, Dr Khaled Al Naas	
11:20-11:40	Experimental Study on the Performance of Circular Concrete Columns Reinforced with GFRP under Axial Loads. <i>Sherif El-Gamal, Othman Alshareedah</i>	
11:40-12:00	Eco-friendly Concrete Using Local Materials from Sudan. Salma Mahmoud, Eltahir Elshiekh	

	D A Y 2 : February 3, 2020 (MONDAY)	
	Session 3A: Construction Management and Process	
Time	Session Chair: Luai El-Sabek, Lean Construction Institute (LCI)-Qatar Venue: Room Ghaf	
15:20-15:40	Key Lessons Learnt from Stakeholder Management In Design And Build Projects In Qatar. Larno Meyer and Ali Kara	
15:40-16:00	Design and Construction Risk Management of Souq Waqif station of Gold Line, Doha Metro. Spyridon Konstantis and Spyros Massinas	
16:00-16:20	Assessment of Response Strategy in Mega Construction Projects. Ayman Mashali, Emad Elbeltagi, Ibrahim Motawa and Mohamed Elshikh	
16:20-16:40	Stakeholder Management: An insightful Overview of Issues. Ayman Mashali, Emad Elbeltagi, Ibrahim Motawa and Mohamed Elshikh	
16:40-17:00	Risk Management for Qatar Expressway Program. Nor Rozaini Abd Rahman	
	Session 3B: Materials and Transportation Engineering	
	Session Chair: Wael Alhajyaseen, Qatar University Venue: Al Silia Ballroom	
15:20-15:40	Integrated Accident Resilience Framework (IARF) – A Theoretical Approach Using Spatial and Statistical Analysis. <i>Sumanta Ghosh, Srinivasan Manickam, Muhammad Haider</i>	
15:40-16:00	A Study on the Default Supplemental Adjustment Factors of Progression Adjustment Factor Formula Under Non-Lane Based Traffic Condition. <i>Abdullah Al Farabi, Tamal Chakraborty</i>	
16:00-16:20	An Artificial Intelligence Approach to Estimate Travel Time along Public Transportation Bus Lines. <i>Mohammad S. Ghanim, Khaled Shaaban, Motasem Miqdad</i>	
16:20-16:40	Developing Assessment Framework for Strategic Transportation Projects in Qatar Anas Mohammad, Nabeel Al Rawi, Osama Freija	
16:40-17:00	Spatial Impact Network Exposure Model (SINEM) with Integration of Traffic Characteristics and Air Pollution Concentration. <i>Sumanta Ghosh, Rohit Rp</i>	
	Session 3C: Geotechnical, Environmental, and Geo-environmental Engineering	
	Session Chair: Mohammed Elshafie, Qatar University Venue: Room Samr	
15:20-15:40	An Innovative Structural Solution to Failed Stabilized Earth Embankment in Multilevel	
	Interchange. <i>Ali Kara, Tamer Tahoun</i> Water Supply from Turkey to Cyprus Island with Suspended Marine Pipelines. <i>Izzet Ozturk,</i>	
15:40-16:00	Water Supply from Turkey to Cyprus Island with Suspended Marine Pipelines. <i>Izzet Ozturk,</i> Necati Agiralioglu, Omer Ozdemir, Nasir Akinci	
16:00-16:20	Influence of Fines on the Compressibility of Surface Sands in Kuwait. Shaikhah A. N. Al- Abdulmuhsen	
16:20-16:40	Influence of Aspect Ratio on the Bearing Capacity and Correlated Modulus of Subgrade Reaction for Shallow Foundations on Dense Sand. <i>Ramez Alchamaa</i>	
16:40-17:00	Constructability and Economical Comparison Between Two Proposed Permanent Shoring Systems in Qatar: A Case Study. <i>Mohammed Alfarra, Mohammed Sadeg, Husam Sadek</i>	
	Session 3D: Sustainability, Renovation, and Monitoring of Civil Infrastructure	
	Session Chair: Ala Abutaqa, Qatar University Venue: Room Qurm	
15:20-15:40	Accelerated Corrosion Tests on Lapped Spliced Joints in Concrete. Sara Onsa, Amged Abdelatif	
15:40-16:00	Climate Change and the Structural Resilience of the Doha Metro. Georgios Nikolis, Petros Chronopoulos, Marin Griguta	
16:00-16:20	Regulatory Frameworks for the Successful Implementation of Construction and Demolition Waste Treatment Infrastructure. <i>Sam Dowding, George Daoutis</i>	
16:20-16:40	Steel Reinforced Grout for Strengthening of RC T-section Beams Deficient in Shear. <i>Tadesse Wakjira, Usama Ebead</i>	
16:40-17:00	High and Ultra-high Performance Concretes: A Solution to Reinforced Concrete Durability under Harsh Climate of Arabian Gulf. <i>Muazzam Ghous Sohail, Ramazan Kahraman, Nasser Al Nuaimi, Wael Alnahhal, Wasee Ahmed Mohammed</i>	

	D A Y 3 : February 4, 2020 (TUESDAY)	
	Session 4A: Construction Management and Process	
Time	Session Chair: Ahmad Mohammad Ahmad, Qatar University Venue: Room Ghaf	
10:20-10:40	Challenges Facing Building Information Modelling in Construction Industry in Sudan. Ahmed Ibrahim and Amged O. Abdelatif	
10:40-11:00	Energy Efficiency in Buildings and Excess Summer Mortality in the UK Ali Mohamed Abdi, Andrew Arewa, Mark Tyrer and Rex Asibuodu Ugulu	
11:00-11:20	Unique Structural Design and Construction Challenges for Al Bustan South Project in Qatar, Anshuman Ganguli and Ali Kara	
11:20-11:40	BIM based Facility Condition Assessment Faisal Faqih, Tarek Zayed and Ehab Soliman	
11:40-12:00	Integrating Building Information Management (BIM) in Civil Infrastructure Coordination: Application at LUSAIL Plaza. <i>Mohab Mohamed Abotaleb, Elisabeth Saab, Mohamed</i> AbdelZaher	
	Session 4B: Materials and Transportation Engineering	
	Session Chair: Khaled Shaaban, Qatar University Venue: Al Silia Ballroom	
10:20-10:40	Modeling Airport Ground Access Mode Choice by Trip Purpose: Business vs. Personal Trips Gurkan Gunay, Ilgin Gokasar	
10:40-11:00	Application of Vehicle Restraint Systems (VRSs) in the State of Qatar: A Case Study from Northern Roads. <i>Deepti Muley, Shahram Tahmasseby, Bernd Wolfgang Wink, Faris Tarlochan</i>	
11:00-11:20	In-Pavement Fiber Bragg Grating Sensor for Vehicle Counting Mu'ath Al-Tarawneh, Ying Huang	
11:20-11:40	Comparison of the Mechanical Behavior of Railroad Ballast in a Box Test under Sinusoidal and Realistic Train Loadings using Discrete Element Method. <i>Yahia Alabbasi, Mohammed Hussein</i>	
11:40-12:00	Vehicle Inspection Policy and Emission Analysis in Kuwait Sharaf Al Kheder, Fahad Al Rukaibi, Ahmad Aiash Session 4C: Geotechnical Environmental and Geo-environmental Engineering	
	Session 4C: Geotechnical, Environmental, and Geo-environmental Engineering	
	Session Chair: Alaa Al Hawari, Qatar University Resource Recovery from Waste, Water and Wastewaters with Membrane Technologies.	
10:20-10:40	Ismail Koyuncu, Bihter Zeytuncu, Mohmet Emin Pasaoglu, Ayse Yuksekedag, Borte Kose- Mutlu	
10:40-11:00	Treatment of Wastewater Using Reverse Osmosis for Irrigation Purposes. MhdAmmar Hafiz, Alaa H. Hawari, Radwan Alfahel	
11:00-11:20	Impact of Ionic Strength on Colloid Retention in a Porous Media: Micromodel Study. Safna Nishad, Riyadh I. Al-Raoush	
11:20-11:40	Enhancement of Naphthalene Biodegradation by Sulfate Application in Brackish Subsurface Systems. <i>Saeid Shafieiyoun, Reem Ismail, Riyadh I. Al-Rauosh</i>	
11:40-12:00	Impact of Draw Solution Concentration on Forward Osmosis Process: A Simulation Study. Radwan Alfahel, MhdAmmar Hafiz, Alaa H. Hawari	
	Session 4D: Sustainability, Renovation, and Monitoring of Civil Infrastructure	
	Session Chair: Wael Al Nahhal, Qatar University Venue: Room Qurm	
10:20-10:40	Development of a Software for Design and Design Comparison of Prestressed I-Beam for Highway and Railway Bridges Based on International Standards. <i>Mustafa Can Yucel, Dilara Akdoganbulut, Alp Caner</i>	
10:40-11:00	Vibration Prediction Model for Building Developments Adjacent to Railways. <i>Martin Seiner, Elisabetta Pistone, Günther Achs, Hanno Töll</i>	
11:00-11:20	Numerical Study of Four Bolts End-Plate Joint Behaviour for Robustness Assessment. <i>Bashir Saleh</i>	
11:20-11:40	Mechanical Performance and Thermo-Physical Properties of Cement Mortar Incorporating Hybrid Slags. <i>Mahad Baawain, Hamada Shoukry, Khalifa Al-Jabri</i>	
11:40-12:00	Long-Term Cost Performance of Corrosion-Resistant Reinforcements in Structural Concrete. **Adel Younis, Usama Ebead**	

	D A Y 3 : February 4, 2020 (TUESDAY)	
	Session 5A: Construction Management and Process	
Time	Session Chair: Ayman Abdul Salam, Gasab Projects Venue: Room Ghaf	
15:20-15:40	Innovative Pavement Materials and Design: Smart Roadways and Smart Road Maintenance for the Future. <i>Sherif Hashem and Clinton Cardiño</i>	
15:40-16:00	Utility Impact Assessment of Road Projects in the State of Qatar Mohammad Mujtaba Hamidy	
16:00-16:20	Preventive Approach to Unsubstantiated Claims and Disputes in the UK Construction Industry Asia Nosheen, Andrew Oyen Arewa and Hafiz Muhammad Akhtar	
16:20-16:40	Project Risk Based Evaluation for Infrastructure Works In Qatar – Highway Projects. Nor Rozaini Abd Rahman	
16:40-17:00	The New Construction Approach Adapted by Ashghal for the Public Projects in Qatar. Ahmad Al-Buenain, Saeed Al-Muhanadi and Mohammad Falamarzi	
	Session 5B: Materials and Transportation Engineering	
	Session Chair: Mohammed Sadeq, Seero Engineering Consulting Venue: Al Silia Ballroom	
15:20-15:40	A Study on Using Reclaimed Asphalt Pavement (RAP) in the Construction of New Roads in the State of Qatar. <i>K. Lakshmi Roja, Eyad Masad</i>	
15:40-16:00	Determination of Temperature Zoning for the Great Lakes Region of Africa Based on Superpave System. <i>Mukunde Ronald, Ghassan Chehab, Mohammad Nour Fakhreddine</i>	
16:00-16:20	Development and Performance of Cement Bound Materials in Road Pavements Khaled E. Hassan, Osman El-Hussain, Mohammed bin-Saif Al-Kuwari, Khalid Al-Emadi	
16:20-16:40	Innovation in Road Construction Industry: An Analysis of Different Case Studies Pardeep Oad, Stephen Kajewski, Arun Kumar	
16:40-17:00	Optimizing the Thermal Resistance of Concrete Using The Palm Tree Fronds Fibers Mohammad Hany Yassin, Rana Lakys, Taha Ahmed, Shafaq Al-Refaei, Bader Al-Sayed Omar, Rose Shaker Altaher	
	Session 5C: Geotechnical, Environmental, and Geo-environmental Engineering	
	Session Chair: Mohammed Elshafie, Qatar University Venue: Room Samr	
15:20-15:40	Challenges For the Use of Local Materials in Unbound Road Subbase in Qatar. <i>Moaaz Hashim Mohamedain, Khaled E. Hassan, Osman El-Hussain, Khalid Al-Emadi</i>	
15:40-16:00	Recycled Concrete Used in Subbase in Potential Use for Road Base and Cement Bounded Material (CBM). <i>Hassan Haidar Ahmad</i>	
16:00-16:20	Using Ground Penetrating Radar (GPR) to Evaluate Air Voids Content in Hot Mix Asphalt Pejman Dehdezi	
16:20-16:40	Use of 3D Images to Evaluate Formation Damage Induced by Montmorillonite Fines in Porous Media Systems. <i>Jamal Hannun, Riyadh Al-Raoush, Zaher Jarrar, Khalid Alshibli, Jongwon Jung</i>	
16:40-17:00	Dynamic Imaging of Hydrate Specific Area Evolution during Xenon Hydrate Formation. Zaher Jarrar, Riyadh Al-Raoush, Khalid Alshibli, Jongwon Jung	
	Session 5D: Sustainability, Renovation, and Monitoring of Civil Infrastructure	
	Session Chair: Amged Abdelatif, University of Khartoum Venue: Room Qurm	
15:20-15:40	Technologies serving Concrete for Economy, Durability and Sustainability. Yahia Alhassani	
15:40-16:00	Cantilever Beam Metastructure for Passive Broadband Vibration Suppression. Ratiba Fatma Ghachi, Wael Alnahhal, Osama Abdeldjaber	
16:00-16:20	Cut carbon, cut cost – Feasibility of applying PAS 2080. Lakshmi Suryan, Lisa Girrbach, George Daoutis	
16:20-16:40	Mechanical Properties of Concrete made with Electric Wires, Steel Fibers, Basalt Fibers and Polypropylene Fibers. <i>Yasmin Murad, Haneen Abdel-Jabbar</i>	
16:40-17:00	Utilizing Recycled Polypropylene Fibres as Reinforcement for Concrete Beams. Khadra Bendjillali, Mourad Hadjoudja, Mohamed Chemrouk	

	D A Y 4 : February 5, 2020 (WEDNESDAY)	
	Session 6A: Construction Management and Process	
Time	Session Chair: Luai El-Sabek, Lean Construction Institute (LCI)-Qatar Venue: Room Ghaf	
10:20-10:40	The Lean Enterprise at the Design Office. Dawlat Elmosalmi and Mohamed Mohsen Ibrahim	
10:40-11:00	Effective Project Control within the Context of Lean Construction. Andre F. Koluksuz	
11:00-11:20	How Public Works Authority Has Built a Portfolio Dashboard through Agility Approach.	
11.20 11.40	Abdulrahman Mchaweh	
11:20-11:40	Solar DER investment for MWANI Qatar Building at Hamad Port. <i>Adel Karama</i>	
11:40-12:00	Lean Principles Implementation in Construction Management: A One Team Approach. Mahmoud Fahmy	
	Session 6B: Materials and Transportation Engineering	
	Session Chair: Eyad Masad, Texas A&M University at Qatar Venue: Al Silia Ballroom	
10:20-10:40	Implementation of Crumb Rubber Modified Binder for Qatar Local Roads Construction Projects Charles N. Nunoo, Saoud Ali Al-Tamimi	
	Test Procedures for Advanced Characterization of Bituminous Binders Employed for Pavement	
10:40-11:00	, , ,	
	Yeganeh, Osman Elhusain Mohamed Idris, Moaaz Hashim M.M. Ali, Khalid Mohd I Al-Emadi	
11:00-11:20	Mechanical and Durability Characteristics of Roller Compacted Geopolymer Concrete Using	
11.00 11.20	Reclaimed Asphalt Pavement. Sk Syfur Rahman, Mohammad Jamal Khattak	
11:20-11:40	Novel Method for Assessing Moisture Damage in Asphalt Mixtures. <i>Mohammad Nour</i>	
11.20 11.10	Fakhreddine, Ghassan Chehab, Zaher Al Basiouni Al Masri, Mohamad Abiad	
11:40-12:00	Characterization of Asphalt Mixtures in Qatar	
	Osman El Hussien, Khaled E. Hassan, Khalid Al-Emadi	
	Session 6C: Materials and Transportation Engineering	
	Session Chair: Abdullah Siam, Ministry of Transportation and Communications Venue: Room Samr	
	Crowd Dynamics, Management and Control at Tourist Attractions during Special Events: A	
10:20-10:40	Case Study at Souq Waqif using Pedestride® Crowd Simulation Tool	
10.20 10.40	Ali Abdelaal, Charitha Dias, Majid Sarvi, Wael Alhajyaseen, Faris Tarlochan	
	Crowd Logistics Delivery Determinants: A Stated-Preference Survey	
10:40-11:00	Ali Al-Saudi, Frank Himpel	
11:00-11:20	Evaluating the Operational Impact of Left-Turn Exclusive Number of Lanes: A Case Study from Qatar. <i>Khaled Shaaban, Mohammad S. Ghanim</i>	
11:20-11:40	Emerging Transit Technology: Implementing an Urban Gondola System over Al Corniche, Doha, Qatar- A Cost Estimation Study. <i>Shahram Tahmasseby</i>	
11:40-12:00	Concept Design of Major Roads and Infrastructure in the Center of Doha City: Phase 4 project	
	Mohab Zaki Session 6D: Sustainability, Renovation, and Monitoring of Civil Infrastructure	
	Session Chair: Adel Younis, Qatar University Venue: Room Qurm	
	East Industrial Pedestrian Bridge: A Case Study of Value Engineering and High Performance	
10:20-10:40	Material. <i>Theodoros Tzaveas</i>	
10:40-11:00	Near Surface Embedded Application for FRCM Strengthening of RC Beams in Flexure.	
10.40-11.00	Hossameldin El-Sherif, Usama Ebead	
11:00-11:20	Compressive Strength and Hydration of Ravennagrass Baggase Ash Concrete	
11.00-11.20	Ashhabu Elkaseem, Samaila Bawa	
11:20-11:40	Dosage Optimization of Polypropylene Fiber for Strength Enhancement of Cementitious	
	Composites. Mohammad R. Irshidat, Nasser Al Nuaimi, Soheb Salim, Mohamed Rabie	
44 40 10 00	Evaluation of Bond Strength Between Carbon Fiber Reinforced Polymer (CFRP) Composites	
11:40-12:00	with Modified Epoxy Resins and Concrete. <i>Mohamed H. Rabie, Eman M. Fayyad, Mohammad</i>	
	R. Irshidat, Nasser A. Alnuaimi, Mohammad K. Hassan	

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