#### 4<sup>th</sup> Conference on Sustainability in Civil Engineering (CSCE'22)

Department of Civil Engineering

Capital University of Science and Technology (CUST), Islamabad, Pakistan

## **CONFERENCE PROGRAM**

**Date:** August 31, 2022

Registration (08:30 HRS TO 09:00 HRS)

Venue: Reception desk near Block A

Note: All poster presenters are requested to display their posters at their allocated space in Multipurpose Hall.

All oral presenters are requested to upload their presentations in respective rooms before the session

starts. Assistance is available in each room.

#### INAUGURATION (09:00 HRS TO 09:15 HRS)

Venue: A2, Ground Floor, Block-A

#### Session Chair: Dr. Muhammad Usman Farooqi Session Co-Chair: Engr. Iqbal Ahmed

Time Activity
09:00 to 09:05 Opening and Recitation
09:05 to 09:10 Welcome by Vice Chancellor, CUST

#### **KEYNOTE LECTURES (09:15 HRS TO 10:15 HRS)**

Venue: A2, Ground Floor, Block-A

## Session Chair: Dr. Muhammad Usman Farooqi Session Co. Chair: Engr. Iabal Ahmed

Session Co-Chair: Engr. Iqbal Ahmed		
	Sustainable health monitoring with non-	Dr. Syed Abid Ali Shah
09:15 to 09:35	linear wave propagation in cement-based materials	Ex-Vice Chancellor
09.13 10 09.33		University of Science and Technology,
	materials	Bannu, Pakistan
		Dr. Ayub Elahi
09:35 to 09:55	Self-compacting concrete - an innovative and sustainable material	Project Director (Development Works)
09.33 10 09.33		University of Engineering and Technology,
		Taxila, Pakistan
		Dr. Naveed Anwar
09:55 to 10:15	IT applications in construction	Vice President for Knowledge Transfer
09.33 to 10.13		Asian Institute of Technology,
		Thailand
		Dr. Imtiaz Ahmed Taj
10.15 to 10.20	Closing Remarks	Dean, Faculty of Engineering, CUST
10:15 to 10:20		Dr. Ishtiaq Hassan
		Head, Department of Civil Engineering, CUST

#### Poster Presentations Session – I and Refreshment (10:20 HRS TO 11:00 HRS)

Venue: Multipurpose Hall

Poster Presentation Coordinator: Engr. Mehran Sudheer Poster Presentation Co-Coordinator: Engr. Umair Ahmed (Jr.)

**Note:** All poster presenters are requested to stand with their posters at their allocated space in Multipurpose Hall. Don't forget to enjoy refreshments.

#### Oral Presentations - Technical Session I (11:00 HRS TO 13:00 HRS)

#### Parallel Session 1-1 Venue: M1, Ground Floor, Block-M

Session Chair: Engr. Faiza Khalid

Session Co-Chair: Engr. Muhammad Waqas

Time	Paper	First Author
11:00 to 11:15	Mechanical Properties of Bamboo Core Sandwich Panels (Paper ID: 142)	Vireen Limbachiya London South Bank University, London, UK
11:15 to 11:30	Influence of Aging on The Penetration Performance of Waste Polymer Modified Asphalt Binder (Paper ID: 150)	Zohra Jabeen NUST, Islamabad, Pakistan
11:30 to 11:45	Comparative Analysis of Cement-Sand Mortar and Geopolymer Mortar Under Fire (Paper ID: 131)	Muqadas Imran UET, Lahore, Pakistan
11:45 to 12:00	Reducing the Water Absorption of Mortar by Using Eco-Friendly Wastepaper Sludge Ash (Paper ID: 134)	Ahsin Ihsan CUI, Abottabad, Pakistan
12:00 to 12:15	Physical, Mechanical, and Non-Destructive Evaluation of Grit Iron Scale Heavy-Density Concrete (Paper ID: 101)	M. Shoaib HITECH University, Taxila, Pakistan
12:15 to 12:30	Mechanical Behaviour of Mortar Using Pozzolana as Partial Replacement of Cement (Paper ID: 141)	Adil Khan UET, Peshawar, Pakistan
12:30 to 12:45	Effect of Steel Slag on Concrete Having Varying Amount of Cement (Paper ID: 130)	Qaiser Bashir MUST, Mirpur, Azad Kashmir
12:45 to 13:00	Influence of Silica Fume, Steel and Polyproplyne Fibers on Mechanical Properties of Plastic Concrete (Paper ID: 135)	Amna Nasir UET, Taxila, Pakistan

## 4<sup>th</sup> Conference on Sustainability in Civil Engineering (CSCE'22) Department of Civil Engineering



Capital University of Science and Technology (CUST), Islamabad, Pakistan

#### Parallel Session 1-2 Venue: M2, Ground Floor, Block-M

Session Chair: Engr. Abdul Qadeer Session Co-Chair: Engr. Usman Hussain

Time	Paper	First Author
11:00 to 11:15	Barriers to Implement BIM in Pakistan (Paper ID: 336)	Muhammad Usama UCP, Lahore, Pakistan
11:15 to 11:30	Operational Energy Life Cycle Assessment of Residential Houses – Analytical Study of An Urban District of Pakistan (Paper ID: 342)	Farrukh Arif NED UET, Karachi, Pakistan
11:30 to 11:45	Construction Cost Estimation Optimization using Building Information Modelling (BIM) (Paper ID: 335)	Muhammad Adeel UET, Taxila, Pakistan
11:45 to 12:00	Cost Overruns and Delays in Construction: A Study on Causes and Control Mechanisms (Paper ID: 301)	Usman Shahid NFC IEFR, Faisalabad, Pakistan
12:00 to 12:15	Fiber glass as an Insulation Layer in Roof Gardening (Paper ID: 337)	Hoorab Shoaib UCP, Lahore, Pakistan
12:15 to 12:30	Appraisal of Desert Sand as a Source of Sustainable Development (Paper ID: 340)	Muhammad Arif UET, Taxila, Pakistan
12:30 to 12:45	Conceptual Design of Residential Buildings for Daylight Employing Contemporary Best Practices (Paper ID: 341)	Nida Azhar NED UET, Karachi, Pakistan
12:45 to 13:00	Out-of-Plane Response of Engineered Cementitious Composite Faced Block Masonry (Paper ID: 204)	Muhammad Imran UET, Taxila Pakistan

#### 4th Conference on Sustainability in Civil Engineering (CSCE'22)

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#### Parallel Session 1-3 Venue: M3, Ground Floor, Block-M

Session Chair: Engr. Iqbal Ahmed Session Co-Chair: Engr. Kainat Batool

Time	Paper	First Author
11:00 to 11:15	Smart and Sustainable Bridge Abutments - A Case Study (Paper ID: 546)	Gaia Corelli Williams Sale Partnership, Edinburgh, UK
11:15 to 11:30	Rutting-Densification Mitigation Measures for Pavements of Pakistan-Sustainable Way Forward (Paper ID: 544)	Ammad Hassan Khan UET, Lahore, Pakistan
11:30 to 11:45	To Compare the Self-Healing of Asphalt Materials at Different Temperatures (Paper ID: 549)	Moazam Sattar UET, Taxila, Pakistan
11:45 to 12:00	Use of Marble Dust as a Filler Material in Flexible Pavements (Paper ID: 547)	Adil Khan UET, Peshawar, Pakistan
12:00 to 12:15	Effect of Rainfall Intensity and Duration on Stability of Natural Slopes of Unsaturated Fine Soils (Paper ID: 601)	Sohaib Naseer Nottingham Trent University, Nottingham, UK
12:15 to 12:30	Experimental Study on Load Carrying Capacity of Individual Piles in A Piled Raft Foundation System (Paper ID: 605)	Muhammad Zubair UET, Taxila, Pakistan
12:30 to 12:45	Helical Pile: An Innovative and Sustainable Foundation Technique (Paper ID: 603)	Hamza Ahmad Qureshi UET, Peshawar, Pakistan
12:45 to 13:00	Experimental Study of Influence the Bearing Capacity of Sandy Soil by Using Cement Grouting (Paper ID: 607)	Muhammad Adil Nawaz UET, Taxila, Pakistan

#### Poster Presentations Session – II (13:00 HRS TO 13:30 HRS)

Venue: Multipurpose Hall

Poster Presentation Coordinator: Engr. Mehran Sudheer Poster Presentation Co-Coordinator: Engr. Umair Ahmed (Jr.)

#### Lunch and Prayer Break (13:30 HRS TO 14:10 HRS)

Venue: Ground Floor, Block K

Males in Prayer Hall Block-E and Females in Block-F.

Note: All participants are requested to collect their certificate from designated desk in Multipurpose Hall.

#### Oral Presentations - Technical Session II (14:10 HRS TO 16:00 HRS)

#### Parallel Session 2-1 Venue: M1, Ground Floor, Block-M

Session Chair: Engr. Faiza Khalid Session Co-Chair: Engr. Naseem Ali

Time	Paper	First Author
14:10 to 14:30	Assessment of Railway's Ground Track Degradation and Subgrade Induced Mud Pumping	Dr. Anas Bin Ibrahim  Head of Centre for CE Studies  UiTM  Caw. Pulau Pinang, Malaysia
14:30 to 14:45	Numerical Study of Shape Memory Alloy (SMA) Reinforced Beam Subjected to Seismic Loading (Paper ID: 205)	Juna Bloy London South Bank University, London, UK
14:45 to 15:00	3D Finite Element Analysis of Reinforced Concrete Beams Under Fire (Paper ID: 210)	Javaria Mehwish Brunel University, London, UK
15:00 to 15:15	Strength Predicting of Fly Ash-Based Concrete Via Machine Learning Algorithms (Paper ID: 213)	Ayaz Ahmad National University of Ireland, Galway, Ireland
15:15 to 15:30	Review Of Infill Wall Modelling Techniques: Macro and Micro Models (Paper ID: 211)	Fatima Khalid NED UET, Karachi, Pakistan
15:30 to 15:45	Mass Distribution Effect on the Finite Model Updating Using Operational Model Analysis Technique (Paper ID: 202)	Khizar Hayat UET, Taxila, Pakistan
15:45 to 16:00	Computational Modeling of Damages in Bridge Piers (Paper ID: 207)	Aizaz Ahmad UET, Peshawar, Pakistan

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#### Parallel Session 2-2 Venue: M2, Ground Floor, Block-M

Session Chair: Engr. Abdul Qadeer

Session Co-Chair: Engr. Muhammad Waqas

bession co-chair. Engr. Wunanmau Waqas			
Time	Paper	First Author	
14:10 to 14:30	Methodology For Developing Seismic Fragility Functions to Support Risk Assessment at National Level	Dr. Naveed Ahmed Stanford University, California, USA	
14:30 to 14:45	Microstructural Study of Coconut Shell Concrete (Paper ID: 145)	Ahmad Rusydie Ramli National Defence University Kuala Lumpur, Malaysia	
14:45 to 15:00	Numerical Simulation of Fracture in Concrete Using Phase Field Model (Paper ID: 203)	Ghufranullah Khan Khattak UET, Peshawar, Pakistan	
15:00 to 15:15	Effect of Aggregate Replacement with Waste Tire Rubber on Properties of Concrete – An Overview (Paper ID: 153)	Syed Bilal Hussain Shah Abasyn University, Islamabad, Pakistan	
15:15 to 15:30	An Experimental Study on Partial Replacement of Bitumen Using Waste Engine Oil & Crumb Rubber (Paper ID: 144)	Muhammad Sarmad Kazmi UET, Taxila, Pakistan	
15:30 to 15:45	Comparison of Experimental Shear Centre of Various Sections with Theoretical Analysis Through Response Surface Methodology (Paper ID: 201)	Hassaan bin Tariq, HITECH University, Taxila, Pakistan	
15:45 to 16:00	Characterization of Asphalt Using Neural Network and Image Analysis Technique (Paper ID: 149)	Samreen Sajjad UET, Taxila, Pakistan	

#### 4th Conference on Sustainability in Civil Engineering (CSCE'22)

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#### **Parallel Session 2-3** Venue: M3, Ground Floor, Block-M

Session Chair: Engr. Iqbal Ahmed

Session Co-Chair: Engr. Muhammad Zaheer

Time	Paper	First Author
14:10 to 14:30	Improving Safety Performance in Construction	Dr. Tariq Umar University of West England Bristol, England
14:30 to 14:45	The Drainage System of Embankment Dams and Their Hydraulic Stability (Paper ID: 408)	Qazi Umar Farooq Islamic University of Madinah KSA
14:45 to 15:00	Experimental Study of Scouring Around Elliptical Pile-Cap by Using Submerged Broad Crested Trapezoidal Weir at Downstream (Paper ID: 401)	Muhammad Ashgar UET, Taxila, Pakistan
15:00 to 15:15	Analyzing the Land-Use Impact on Flood Regime in Soan Basin (Paper ID: 405)	Usama Nazar NUST, Islamabad, Pakistan
15:15 to 15:30	Design of Civil Components of Micro Hydro Power Plant: A Case Study (Paper ID: 404)	Majid Khan UET, Peshawar, Pakistan
15:30 to 15:45	Spatio-temporal Analysis of Precipitation in Punjab Province, Pakistan (Paper ID: 713)	Aarish Maqsood BZU, Multan, Pakistan
15:45 to 16:00	Removal of Arsenic and Pharmaceutical Compounds from Drinking Water: A Meta-Analysis (Paper ID: 714)	Abaid Ullah UET, Taxila, Pakistan

#### Poster Presentations Session - III and Refreshment (16:00 HRS TO 16:45 HRS)

Venue: Multipurpose Hall

Poster Presentation Coordinator: Engr. Mehran Sudheer Poster Presentation Co-coordinator: Engr. Umair Ahmed (Jr.)

#### Closing Ceremony (16:45 HRS TO 17:00 HRS)

Venue: M1, Ground Floor, Block-M

Session Chair: Dr. Majid Ali (Conference Chair)

Session Co-Chair: Engr. Minhas Shah (Conference Secretary)

# 4th Conference on Sustainability in Civil Engineering (CSCE'22) Department of Civil Engineering Capital University of Science and Technology (CUST), Islamabad, Pakistan

### **Poster Presentations**

S. No.	Paper	First Author
1	Effect of Human Hair Fiber on Mechanical Properties of Concrete (Paper ID: 132)	Muhammad Waqas UET, Taxila, Pakistan
2	The Effect of Polypropylene Fibers on Tensile Strength of Self Compacting Concrete (Paper ID: 139)	Muhammad Tariq UET, Taxila, Pakistan
3	Fresh and Mechanical Properties of High Strength Self-Compacting Concrete Modified with Fly Ash and Silica Fume (Paper ID: 146)	Iftikhar Younis UET, Taxila, Pakistan
4	Strengthening of a Flat Plate slab - Case study (Paper ID: 148)	Naeem Ullah UET, Taxila, Pakistan
5	Experimental Study of Fibre Synergy to Investigate the Tensile & Compressive Strength of Fibre Reinforced Concrete (Paper ID: 155)	Talha Rashid UET, Taxila, Pakistan
6	Performance Evaluation of a Partially Synthetic Bitumen Composed of Industrial Waste (Paper ID: 156)	Hamza Javed UET, Taxila, Pakistan
7	A Review on Repairing Fire-damage Gypsum Board (Paper ID: 160)	Muhammad Rizwan ul Haq Sarhad USIT, Peshawar, Pakistan
8	A Review on the Usage of Modern Techniques to Overcome the Issues in Rapid Setting Concrete for Extreme Temperature Zones (Paper ID: 161)	Ayesha Aziz Bahria University, Islamabad, Pakistan
9	Numerical Investigation of Quarry Rock Dust Fly Ash and Slag Based Geo Polymer Concrete Beams (Paper ID: 206)	Maaz Ahmad UET, Taxila, Pakistan
10	Investigation of Punching Shear Response of GFRP Reinforced Concrete Flat Plate Slab Using CDP Model in Abaqus (Paper ID: 208)	Hafiz M. Aubaid Asaad UET, Taxila, Pakistan

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S. No.	Paper	First Author
11	Optimum Design of Prestressed Concrete Girder Using Jaya Algorithm (Paper ID: 209)	Imran Shabbir UET, Taxila, Pakistan
12	Structural Systems identification Using Weighted Transmissibility Operator Under Ambient or Forced Vibrations (Paper ID: 212)	Shanza Arshad Khan UET, Taxila, Pakistan
13	Investigation of Stresses in a Concrete Gravity Dam Under Combined Loadings of Seismic and Flood Waves (Paper ID: 214)	Muhammad Zeshan Khalil UET, Taxila, Pakistan
14	An Overview on the 3D Printing Technology in Construction Industry (Paper ID: 338)	Muhammad Abrar University of South Asia, Lahore, Pakistan
15	Application of Construction and Demolition Waste for Sustainable Pavement Construction - A Review (Paper ID: 343)	Adeem Waqar Hashmi NESPAK Lahore, Pakistan
16	Challenges for Incorporating BIM Based LCA in a New Commercial Building Project & Construction Firm in Pakistan: A Review (Paper ID: 344)	Ali Junaid Gren Construction Pvt. Ltd. Islamabad, Pakistan
17	Experimental Analysis of Scouring Around the Round Nose Bridge Pier Using Different Bed Material Conditions (Paper ID: 403)	Hafiz Ubaid Ur Rehman UET, Taxila, Pakistan
18	Experimental Study of Bridge Piers of Different Shape Surrounded by Mesh Wire to Minimize the Local Scour (Paper ID: 406)	Muhammad Anees UET, Taxila, Pakistan
19	To Study the Impact of Floating Debris on Bridge Pier (Paper ID: 407)	M. Umar Hayyat Jam UET, Taxila, Pakistan
20	To Calculate the Discharge Coefficient for a Broad Crested Weir with Non-Submerged Flexible Vegetation (Paper ID: 410)	Nauman Khan UET, Taxila, Pakistan
21	Experimental Study of T-Shaped Spur Dike with Different Inclination to Minimize the Local Scour (Paper ID: 411)	Nayab Tariq UET, Taxila, Pakistan

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S. No.	Paper	First Author
22	An Overview of Sustainable Repair Strategies for Potholes in Flexible Pavements During Rehabilitation Phase (Paper ID: 540)	Haider Abrar RIU, Islamabad, Pakistan
23	Calculation of Realistic ESAL Values for Future Design of Rural Roads (Paper ID: 545)	Salman Hamad UET, Peshawar, Pakistan
24	An Experimental Study on Lateral Contribution of Raft and Pile in a Piled Raft Foundation System (Paper ID: 606)	Abrar Ullah UET, Taxila, Pakistan
25	Identification and Countermeasures of Spatial Concentration Factors for Particulate Matter 2.5 (Paper ID: 716)	Ibrahim UET, Taxila, Pakistan