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INSTITUTE OF TECHNOLOGY (A)

Kokapet (Village), Gandipet, Hyderabad, Telangana-500075. www.cbti.ac.in



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COMMITTED TO
RESEARCH,
INNOVATION AND
EDUCATION

42
years

IC-SAFRI 2021

Publication of **ABSTRACTS**

Proceedings of the
1st International Conference on
Sustainable Approach for Resilient
Infrastructure
26-27 June 2021



Dr. K. Jagannadha Rao
Dr. U. Johnson Alengaram
Dr. M.V Krishna Rao
Dr. N.R Dakshina Murthy





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Publication of Abstracts

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50603, Kuala Lumpur, Malaysia



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Editors:

Dr. K. Jagannadha Rao, Professor, Department of Civil Engineering, Chaitanya Bharathi Institute of Technology (A), Gandipet, Hyderabad, Telangana, 500075

Dr. M.V. Krishna Rao, Professor, Department of Civil Engineering, Chaitanya Bharathi Institute of Technology (A), Gandipet, Hyderabad, Telangana, 500075

Dr. N.R. Dakshina Murthy, Associate Professor Department of Civil Engineering, Chaitanya Bharathi Institute of Technology (A), Gandipet, Hyderabad, Telangana, 500075

Dr. Johnson Alengaram U, Associate Professor Department of Civil Engineering, Office of the Faculty Engineering, University of Malaya, Kuala Lumpur, 50603, W. Persekutuan Kuala Lumpur, Malaysia

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PREFACE

This volume contains papers presented at the 1st International Conference on “Sustainable Approach for Resilient Infrastructure (IC-SAFRI 2021)”, held in online mode by the department of civil engineering, Chaitanya Bharathi Institute of Technology, Hyderabad, Telangana during June 26-27, 2021. IC-SAFRI 2021 provided a scientific platform for both local and international researchers, academicians, scientists, and engineers working in various streams of civil engineering to exchange the latest technology and research results. In addition to the contributed papers, internationally well-known experts were also invited to deliver keynote speeches. The volume includes the abstracts of 34 selected papers received for the conference from universities, research organisations and the construction industry. Each contributed paper was subjected to a rigorous blind peer-review process by two experts in the related fields of Research. The reviewers played a key role in ensuring the selection of quality papers for the conference with in the given time. The selected 34 papers were presented over 4 technical sessions with the efforts of all the session chairs and presenters. The chairperson of each session played an important role in guiding the sessions in an efficient manner.

On behalf of the organising committee, we express our sincere appreciation to the reviewers, chairs and co-chairs of the sessions and finally the authors whose presentations led to the success of the conference. We are confident that the participants find the discussions fruitful and enjoy the opportunity for setting up future collaborations.

With Best Wishes,

Dr. M.V. Krishna Rao

Co-convenor

IC-SAFRI 2021

Dr. K. Jagannadha Rao

Convenor

IC-SAFRI 2021

MESSAGE FROM THE CONFERENCE CHAIR IC-SAFRI 2021

Dear Colleagues and IC-SAFRI delegates,

It gives me an immense pleasure to announce that the 1st International Conference on “Sustainable Approach for Resilient Infrastructure (IC-SAFRI 2021)” is being organised online from 26 - 27 June, 2021. The Conference is jointly organized by the Department of Civil Engineering, CBIT (A), Hyderabad, Telangana, India, and the Centre for Innovative Construction Technology (CICT), Department of Civil Engineering, University of Malaya, 50603, Kuala Lumpur, Malaysia. Due to COVID-19 pandemic related issues, IC-SAFRI 2021 had to be rescheduled from April to June 2021. The decision of conducting the conference in online mode was based on the uncertainty of situations that may escalate and cause inconvenience to the attendees.

A total of 34 papers have been accepted for online presentation out of 105 papers after a peer review process. I hope that this forum will provide opportunities to all delegates/participants not only to exchange their knowledge, ideas, and experiences but also to make contacts and establish further collaboration. I congratulate the department of civil engineering on the conduct of international conference in the field of topical importance at an appropriate time and wish all the participants a memorable experience of attending this conference and hoping that it will be a grand success with active participation of all those concerned.

I hope that we meet again in the next IC-SAFRI.

Dr. G.P. Saradhi Varma
Conference Chair, IC-SAFRI 2021

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CONFERENCE INTERNET SITE

**For further information, please visit the conference internet site:
<http://ic-safri2021.cbit.org.in>**

OVERALL SCHEDULE

DAY 1 (26-06-2021)			
Inaugural Session			09:30 to 10:30 AM
SESSION-1 Sustainable materials and management			
Keynote Lecture	Dr. Johnson Alengaram U	Encompassing non-traditional construction materials in the development of sustainable construction and challenges	10:30 to 11:00 AM
Session Chair		Dr. Veje, University of Malaya, Malaysia	
Session Co-Chair		Dr. M.V. Rama Rao, Vasavi College of Engg., Hyderabad	
Session-Coordinator		Ms. M. Aparna, CBIT, Hyderabad	
S.No	Paper ID	Paper Title	Time
1	M4	Studies on Concrete Made of Quartz and Feldspar Mineral Mining Materials for Sustainability B. Udayasree, and T. Raja Ramanna	11:00 AM to 01:30 PM
2	M5	A Review on the Durability and Applicability of Geopolymer Concrete from the Recent Research Studies Sarfaraz Ali, and A. K. Sachan	
3	M8	Mechanical Properties of Geopolymer Concrete Reinforced with Steel and Glass Fibres with Various Mineral Admixtures Y. Naveen Kumar, B. Dean kumar, B.L.P Swami	
4	M14	Self-Healing Concrete Mohammed Safiuddin, Shaik Ihthe shaam, Rizwan Abdul Kareem, Shalam	
5	M37	Life Cycle Assessment of a Building using Open-LCA software Yashwanth Pamu, VSS Kumar, Mohammad Abdul Shakir, Hemanjali Ubbana	
6	M44	Towards Sustainable Construction through the Application of Low Carbon Footprint Products and Demonstration Projects Ranjetha, U. Johnson Alengaram, Ahmed Mahmoud Alnaih, Karthick S, Wan Zurina WJ, Rao K.J.	
7	M48	Cellular Lightweight Concrete using Palm Oil Industrial Waste as Cement Replacement Material and Fine Aggregate Ahmed Mahmoud Alnaih, Abraham HB, U. Johnson Alengaram, Walid Deboucha, Karthick S	
8	CT1	Risk Assessment Of Cost Overrun Using Fuzzy Logic Model Alekhya Gullapudi, K. Shashikanth, Anjaneya Prasad	
9	M24	An Experimental Investigation on compressive Strength of Concrete with Rice Husk and Cow	

		Dunk Ash Using Various curing Methods Sangam Ekasila, Mohammed Safiuddin, Syed Anisuddin	
LUNCH			01:30 to 02:30 PM
SESSION-2 Materials and Transportation engineering			
Keynote Lecture	Dr. Kalaga Ramachandra Rao	An Approach Towards Sustainable Urban Transportation-Challenges and Opportunities	02:30 to 03:00 PM
Session Chair		Dr. M. Kumar, Principal, UCE(A), OU, Hyderabad	
Session Co-Chair		Prof. S.S.V. Chalam, CBIT, Hyderabad	
Session-Coordinator		Dr. P. Yugendar, CBIT, Hyderabad	
S.No	Paper ID	Paper Title	Time
1	T3	The Parametric Comparison of Perpetual Pavements with respect to Life-cycle Cost and Greenhouse Gas Emissions Saurabh Kulkarni, and M. S. Ranadive	03:00 to 05:30 PM
2	T4	Mitigation Of Black-Spot's On Highways By The Application Of Safe System Approach Dinesh K Yadav, Sujesh D. Ghodmare, N. Naveen Kumar	
3	T11	Modelling of Choice Behaviour of Modes in Leisure Travel: A Case Study of Indian City S Praveen, and M Kumar	
4	M7	Effect of MgSO ₄ Solution On Recycled Aggregate Concrete Sonalin Panda, T. Jena, K. C. Panda, C.R. Panda	
5	M18	A Study on Mechanical Properties of High Strength Concrete With Partially Replacement of Cement Bhotla Harish, N.R. Dhakshina murthy, Malegram Sridhar, Dr. K. Jagannadha Rao	
6	M22	The Flow Properties of SCC with Marble Waste Powder as a Partial Substitute for Cement Vijendra Jarugumalli, and L.N.K.Sai.Madupu	
7	M60	Crushed Stone Dust as a Replacement for River Sand in Self Compacting Repair Mortars - A Sustainable Solution Krishna Rao M.V. and Mohammed Faeq Ahmed,	
8	M31	Utilization of a Mixture of Waste Plastic Material and Granite Particles as a Partial Replacement of Coarse Aggregate in Concrete Blocks Khaja Musab Manzoor, Shaik Asif Ali, Syed Ehteshamuddin, Ibrahim Ali, Syed Saifuddin, Haseeb Ahmed	
DAY 2 (27-06-2021)			
SESSION-3 Miscellaneous			

Keynote Lecture	Dr. M.R. Madhav	Sustainable Developments - Geotechnical alternatives	09:30 to 10:00 AM
Session Chair		Dr. K.S. Raju, Professor, BITS, Hyderabad	
Session Co-Chair		Sri. R. Ranga Reddy, CBIT, Hyderabad	
Session-Coordinator		Mrs. K. Manasa, CBIT, Hyderabad	
S.No	Paper ID	Paper Title	Time
1	G3	An Experimental Study on the Soil Reinforced Blocks Chinoori Shiva Prasad, Shireesha. k, Bhanu Kumar, Pushpakumari	10:00 AM to 12:30 PM
2	T10	Experimental Assessment of Coir Geotextile to Improve the Strength of Weak Subgrade at Different Load Conditions D. Harinder, P. Yugendar, S. Shankar	
3	C4	Evaluation of Water Quality Index at Gandipet Lake Surroundings Ramnarayan Sankrithi, Saravanan Subbarayan, Aswari Sultana Begum, AlluVenkatakrishna Reddy, Banoth Naveen	
4	C5	Performance Evaluation of Composite Coagulant in Treating Textile Wastewater E. Sakthivel, and R. Manoj Suburam	
5	M 59	To Study on Properties of Porous Concrete Incorporating Aloe vera and Marble Waste Powder as a Cement Replacement Ankamaraju Oggu, L. N. K. Sai .Madupu	
6	M69	Effect of High Temperature on Coconut Fiber Reinforced Concrete Avubothu Maheshwari, Ponaganti Saiteja, Sunkari Ramya and Ganta Mounika	
7	M78	Experimental Study on Strength Properties of Concrete with Partial Replacement of Coarse Aggregate by Rubber Tyre Waste Dhivya K, and Priyadharshini K	
8	M80	Experimental Behaviour Of Fibre Reinforced Self Compacting Concrete Under Cyclic Loading P. Jeganmurugan, A. Sree Rameswari, N. Anuja	
9	M81	A Study On Mechanical Properties Of Alkali Activated Ground Granulated Blast Furnace Slag Concrete Manoj suburam R, Sakthivel E, Jayanthimani E	
LUNCH			12:30 to 01:30 PM
SESSION-4 Structural engineering and sustainability			
Keynote Lecture	Dr. P. Rathish Kumar	Development of a Framework for Sustainable Materials Assessment – Way Forward	01:30 to 02:00 PM
Session Chair		Dr. V. Bhikshma, Professor, UCE(A), OU, Hyderabad	
Session Co-Chair		Sri. A. Balaji Rao, CBIT, Hyderabad	
Session-Coordinator		Sri. P. Srinivas Reddy, CBIT, Hyderabad	

S.No	Paper ID	Paper Title	Time
1	M10	An Experimental Study on Flexural Performance of RC beams Strengthened by NSM Technique using GFRP Strips for A Resilient Infrastructure System Kusuma Y, Rashmi T, Nikitha Anand, Balaji N C	02:00 PM to 04:30 PM
2	M12	Optimization of Location of Outrigger System in Tall Buildings of Different Aspect Ratios Pradeep Gunda, and VimalaAnthugari	
3	M13	Dynamic Performance of Soft-Storey Structures with Gap Elements at Beam-Column Joints MrudulaChanumolu, and Vimala Anthugari	
4	M33	An experimental study on R.C beam-column joints under cyclic loading Avari Nagaraju, and V.B. Reddy Suda	
5	M56	Mode Shape Modification of Irregular Buildings A. Balaji Rao, P. Srinivas Reddy, Ch. Meghana Shaly	
6	M77	Concrete Beam with Profiled Reinforcement E. Arundhava Priya, N. Mohanraj, D. Sarathkumar	
7	M61	Experimental Study on Mechanical and Durability properties of Recycled Aggregate Based Geo- Polymer Concrete R. Swami Ranga Reddy and B. Anand Sagar Rathod	
8	M79	Experimental Study on the Behavior of Steel Fibre When used as A Secondary Reinforcement in Reinforced Concrete Beam Pradeep kumar and M. Shahul Hameed	
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