

ASCE India Section Quarterly News

An engineering society for the advancement of the science & profession of Civil engineering & enhancement of human welfare through the activities of society members

November 2021 – January 2022

Web Edition

EDITOR: Er. Narsimha Chary Poloju, Sr, C.Eng, P.E., S.E., M.ASCE



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International Webinar Series on Structural & Geo-Confluence | 5 November 2021

ASCE India Section Southern Region in association with the Department of Civil Engineering, Mahendra Engineering College, Namakkal, & Malnad College of Engineering, Hassan jointly organized the International Webinar Series on Structural and Geo-Confluence on the 169th ASCE Day - 5th November 2021 as a part of the ASCE Day Anniversary Celebrations. The International Webinar Series was a fortnightly three-days event supported by various professional bodies including Indian Geotechnical Society -Hyderabad Chapter, Institution of Engineers (India) - Mysore Local Centre, Institution's Innovation Council. and Indian Concrete Institute, Chennai Centre.

This virtual webinar emphasized on seismic prediction methods and its related test was discussed, the field test like cross hole seismic test, down hole seismic test & crosshole / cross face tomography are explained in a significant way. The sustainable resilient structure is described in noteworthy way. The innovative resilient materials for the seismic resistance are discussed in this international webinar. The National and International experts contributed their knowledge in a remarkable manner. This session is a eye-opening for the researchers and academicians.

The welcome address was delivered by **Dr. R. V. Mahendra Gowda**, Principal, Mahendra Engineering College, Namakkal. **Dr. R. Samson Ravindran**, Executive Director, Mahendra Educational Institutions & **Dr. A. J. Krishnaiah**, Professor & Head, CED, MCE Hassan felicitated the gathering. The international virtual webinar was inaugurated and presented the profile of Guest of Honor - **Dr. Samadhiya Narendra Kumar** Professor of Geotechnical Engineering by **Er. Narsimha Chary Poloju**, President, ASCE IS SR. The vote of thanks given by **Dr. K. Vidhya**, Professor & Head, Department of Civil Engineering, Mahendra Engineering College.

Dr. S. Narendra Kumar, Ph.D. Professor, IIT Roorkee

Shared his views related to soil structure interaction & its importance for the sustainable manner & also came up with soil testing methods & its applications for predicting the seismic propagation







Glimpses from the inaugural session

International Webinar Series on Structural & Geo-Confluence | 5 November 2021

Session 1: Dr. Sanjay Rana, Ph.D.

Topic: "An overview of cross hole seismic test, Down hole seismic test & crosshole / crossface tomography"

Key Takeaways:

- Geophysical methods are the modern methods to study the nature of geological conditions of the particular area; Professor explained the principles behind the geophysical system for plotting the Subsurface stratification
- 2. Delineate the underground conditions by adopting the various seismic refraction studies are also discussed in this forum
- Transferred the knowledge in the field of different testing procedures like cross hole seismic and down hole seismic methods
- Case study discussions are very helpful for the researchers to understand the seismic generation in the several rock strata

Session 2: Prof. Krishna R. Reddy, Ph.D.

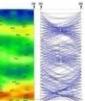
Topic: "Framework to Assess Sustainable and Resilient Civil Infrastructure"

Key Takeaways:

- 1. The concepts on resilient structure are talk through in this webinar
- The several resilient materials for resisting the seismic shocks have been contributed to the participants
- 3. Elaborated the geothermal systems for the buildings for the comfort dwelling
- 4. Waste management issues and minimizing the land contaminations are also elucidated in this international series

n Overview of Crosshole Seismic Test, Downhole Seismic Test & Crosshole/ Crossface Seismic Tomography







Tr. Sanjay Rana
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Glimpses from the technical session

International Webinar Series on Structural & Geo-Confluence | 19 November 2021

ASCE India Section Southern Region in association with the Department of Civil Engineering, Mahendra Engineering College, Namakkal, & Malnad College of Engineering, Hassan jointly organized the first fortnight of the International Webinar Series on Structural and Geo-Confluence on 19th November 2021.

The virtual webinar focused on the innovations and technologies in the domain of fire resistant structures and the liquefied zones identified using the global map. The session illuminates on the experimental approaches for the fire resistant on buildings. The liquefaction-induced lateral spread displacements are delineated. The expert shed some lights on prediction of lateral displacements induced by liquefaction. The paramount professional's from globally shared their multi-skilled & life experiences with all the participants.

An international webinar was welcomed by Dr. R. V. Mahendra Gowda, Principal, Mahendra Engineering College, Namakkal. Dr. R. Samson Ravindran. Executive Director. Mahendra Educational Institutions & Dr. A. J. Krishnaiah, and Professor Head. Civil Engineering Department, Malnad College of Engineering felicitated the gathering. The international virtual webinar was inaugurated & presented the profile of Guest of Honor - Dr. Dennis D. Truax Ph.D, ASCE President 2022 by the President of ASCE IS SR Er. Narsimha Chary Poloju. The vote of thanks given by Dr. K. Vidhya, Professor & Head. Department of Civil Engineering. Mahendra Engineering College.

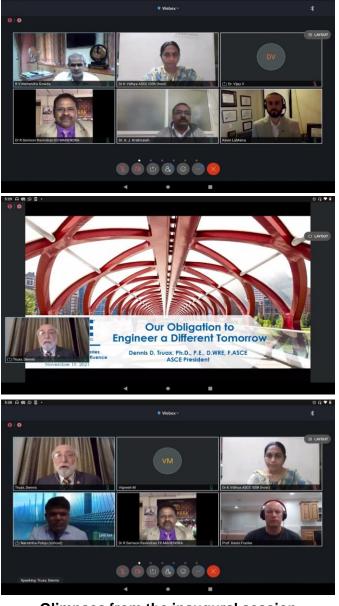
Session 1: Mr. Kevin LaMalwa, P.E, F.ASCE Topic: "Designing for intrinsic structural fire Safety"

Key Takeaways:

1. The fire resistant to the structural element are discussed in a interesting way, the structural behavior of fire exposed also highlighted in this session **Dr. Dennis D. Truax, Ph.D.** President, ASCE 2022

Emphasized on "EDUCATE TO BE INNOVATORS" Managers for risk & uncertainty, we have to design our infrastructures. The code for tomorrow like society, peers, environment, profession and clients or employers





Glimpses from the inaugural session

([↑]) Kevin LaMalva

International Webinar Series on Structural & Geo-Confluence | 19 November 2021

- Novel approaches like purely fire proofing materials and its characteristics of the materials are explained in a captivating way
- 3. Demonstrated the fire vulnerability to the structural elements and the estimation of the compression and tension members' action
- Designing the structural element by incorporating the fire resistant concepts and also to account the floor expansions methodology.

Session 2: Dr. Kevin W. Franke, Ph.D., P.E., M.ASCE

Topic: "A National Framework for Predicting Performance-based estimate of Liquefaction-Induced Lateral Spread Displacements"

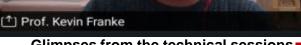
Key Takeaways:

- The lateral spread displacements due to liquefaction are discussed in this international webinar; speaker explains the national frame work for prediction of lateral spread displacements in global manner
- The different testing methods on the soil shear strength parameters are discussed here, from this analysis the prediction of displacements are discovered
- The mathematical modeling for prediction of soil displacements due to liquefaction, are elucidated
- Delineation the global map distribution for prediction of liquefied zone and lateral displacement of soil



Correlation between PGA and Optimum

Grid Spacing: Lateral Spread



Glimpses from the technical sessions

International Webinar Series on Structural & Geo-Confluence | 03 December 2021

The second fortnight of the **International Webinar Series** on **Structural and Geo-Confluence** organized by ASCE IS SR in association with the Department of Civil Engineering, Mahendra Engineering College, Namakkal, Tamilnadu and Malnad College of Engineering, Hassan was held on 03rd December 2021.

The Presidential address was delivered by **R. V. Mahendra Gowda** (Principal, MEC Namakkal) and the opening address by **Prof. S. B. Devaraj** (Associate Professor, Civil Engineering Department, MCE Hassan). The welcome address was delivered by **Dr. Bharathi Ganesh**, Secretary ASCE IS SR, followed by the introduction of the distinguished Special Guest of the Program – **Dr. Sushil Kumar Dhawan**, the former Chief Engineer of Central Public Works Department, Government of India.

The event witnessed nearly **200 participants** including students, research scholars, faculty members of academic institutions, and industry personnel throughout the Globe.

Technical Session: Dr. Ramancharla Pradeep Kumar, Registrar of IIIT Hyderabad and also the Head of Earthquake Engineering Research Centre

Topic: "Earthquake Disaster Risk Index - To forecast the relative earthquake risk within a city and across cities"

Key Takeaways:

- Narrated a comparison between the evolution of the World's & India's best practices in housing safety over past years urging for the need for following the standards
- Elaborated on the role of people, process and products to achieve earthquake safety by highlighting the different levels of earthquake safety assessments
- Explained the step-by-step procedure for the telescopic method followed for disaster risk indexing and its estimation

Dr. Sushil Kumar Dhawan PhD Former Chief Engineer, CPWD

Outlined the importance and need for sustainable solutions to overcome the challenges of current world including global warming and climate change



- 4. Explained the methodology for estimating design base shear on buildings
- Demonstrated the Earthquake Disaster Risk Index estimation based on case studies from Bhuj, Gujarat and Pithoragarh, Uttarakhand through assignment of scores for various factors
- 6. Discussed major observations including possible solutions for new structures and options of retrofitting for old structures



Glimpses from the technical session

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Other Events

Faculty Development Programme on "Recent trends in design, construction and maintenance of concrete pavements" | 5 – 9 July 2021

A five-day Faculty Development Program (FDP) was organized by Mar Baselios College of Engineering Technology, and Thiruvananthapuram, Kerala, sponsored by APJ Abdul Kalam Technological University. The FDP was inaugurated by Dr. Abraham T Mathew (Principal, MBCET) in the august presence of Rev. Fr. John Vilayil (Bursar MBCET), Dr. A Veeraragavan (Professor, IIT Madras), Dr. J Murali Krishnan (Professor, IIT Madras), Dr. Samson Mathew (Director, NATPAC), Dr. M Satyakumar (Prof. TE Division, Dept. of CE), Dr. Jayasree S (Head of Department), industry representatives, the faculty from other KTU affiliated institutions and other dignitaries.

The FDP was coordinated by Dr. Neethu Roy (Faculty Advisor, ASCE MBCET Student Chapter; Dean (R&C), MBCET) and Ms. Anupama Krishnan (Assistant Professor, Dept. of CE, MBCET). The FDP focused on topics related to material characterization, analysis & construction. maintenance. desian. & rehabilitation of sustainable concrete pavements. Special attention was given to incorporate the state of art practices in the concrete pavement sector & also the recent developments in concrete pavement technology. The highlight of the FDP was the keynote lectures by Eminent speakers from IIT's NIT's and industry.

Day 1: Four sessions were conducted on Introduction, Material Characterization, Mix design and analysis of CC pavements

Key Takeaways

- 1. Importance of CC pavements and the need for life cycle assessment for sustainable road construction.
- 2. Material characterization for concrete pavement under various design guidelines such as M-EPDG, AASHTO, PCA and IRC

- Measurement of resilient modulus for soils, modulus for concrete, and coefficient of thermal expansion – the significance of the test procedures and the associated issues.
- 2. Analysis of CC pavement, stress analysis, curling theory, derivation of the fundamental equations for analysis of pavement structure, fundamental aspects of slab bending, curling, etc., and analysis of slabs by using finite element formulation

Day 2: Topics delivered were design of sustainable concrete pavements and CC pavements for low-volume roads and Slip-form pavers for construction of concrete pavements and fibre reinforced concrete pavements.

Key Takeaways

- 1. Design of FRC pavements with IRC-58 and use of standard templates in Microsoft Excel for the design computations.
- 2. Strategies for the sustainability of rigid pavements and the potential of fibre reinforced concrete as a solution for the same.

Other Events

Day 3: The topics covered include, Evaluation and Rehabilitation of CC pavements, Sustainable Roller Compacted Concrete Pavements (RCCP) and QA and QC for concrete pavements.

Key Takeaways

- 1. Detailed steps to make sustainable roller compacted concrete pavements.
- Standard operating procedures for quality control of CC pavement and various aspects of pavement evaluation.

Day 4: Mr. Lokesh T R, Mr. Rajib Chattaraj, Dr. Sonparote and Dr. Anush Chandrappa transferred their knowledge on White-topping construction and quality control, Short panelled concrete and interlocked concrete paver blocks, Pre-cast Concrete pavements and Pervious concrete pavements

Key Takeaways

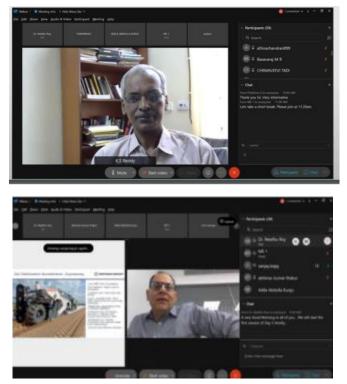
- 1. Behavioral mechanism of White-topping, quality control tests, mix design details, plant site, and mix production.
- 2. The present advancements in precast construction in big infrastructure projects.
- 3. Pervious concrete mix design, construction practices, and benefits.

Day 5: Sessions were on Cement treated base and sub-base for concrete pavements, Construction of concrete pavement at Shiradi Ghat, Use of recycled aggregates in concrete mixes for CC pavements and Evaluation

Key Takeaways

- 1. Practical knowledge and understanding the various real-time issues in the construction of pavements at a Ghat region and its solutions
- 2. Recycled aggregates as sustainable materials in road construction.

The FDP was benefited by representatives from industry, students, and faculties. The FDP indeed broadened the outlook and knowledge on concrete pavements.



Other Events

AICTE – ISTE sponsored Induction / Refresher Program on "Pollution Control and Remediation – A Geo Environmental Approach" | 29 December 2021 - 04 January 2022

The induction / refresher program for faculty members of all technical institutions in India was sponsored by the **All India Council for Technical Education (AICTE)** through **Indian Society of Technical Education (ISTE)** and was organized by the Department of Civil Engineering, Malnad College of Engineering, Hassan.

The six-days program was inaugurated by the invited Guests of Honor: Dr. Elias B. Savah (President & CEO, Sayah Engineering MENA and also the Director of ASCE - Region 10), Dr. S.K. Ukarande (Principal, K.J. Somaiya Institute of Engineering & Information Technology and also a Member of the National Executive Council, ISTE, New Delhi) in the gracious presence of Dr. C.V. Venkatesh (Principal, MCE Hassan) and Er. Narsimha Chary Poloju (Industry Practicing Advisor, Civil Engineering Department, MCE Hassan and also the President, ASCE IS SR). The Guest of Honor -Dr. Kamal Laksiri (Project Director at the Ceylon Electricity Board and also the Governor -Region 10, American Society of Civil Engineers) joined us during the event.

Resource Speakers were identified from premier institutes of the country including Indian Institute of Science, Bangalore, National Institute of Technology Karnataka, Surathkal, University Visvesvarava College Enaineerina. of Bangalore. In addition, eminent speakers from Institute for Global Environmental Strategies, Japan, personnel from State Pollution Control Board, and faculty researchers from other renowned institutes. The key takeaways from the presentations of the resource speakers, and all other details of the Refresher Program can be accessed in the Report of the AICTE-ISTE sponsored Induction/Refresher Program 2021-22.

Dr. Elias B. Sayah President & CEO, Sayah Engineering MENA Director, ASCE – Region 10

"Utilize all the resources open to all members or as a student member. Get informed and let your voice be heard and improve the whole thing for ASCE"





Dr. S. K. Ukarande Principal, KJSIEIT, Mumbai Member, NEC, ISTE, New Delhi

"There is a lot of spurt in population, industrialization, urbanization to meet the need (& greed) of human kind. We as individuals, faculty & scientists should make aware of the society & as root cause attempt to minimize, control pollution & remediate already polluted sites"

Dr. Kamal Laksiri Project Director, Ceylon Electricity Board

Governor, ASCE – Region 10

"Continuous Professional Developments (CPDs) are must to keep ourselves up-to-date as engineers. In this process, CPDs are planned acquisition of knowledge, experience & personal qualities for proper execution of our professional & technical duties throughout out our career as engineers"





Col. B. Natesh Director, Faculty Development Cell, AICTE, New Delhi

"This Refresher program has achieved, what it was meant for. We have done justice; ISTE along with AICTE have done justice in identifying an institute capable enough delivering the results."

ASCE Day Webinar | Federal Institute of Science & Technology | 5 November 2021

The ASCE Student Chapter of Federal Institute of Science and Technology (FISAT) organized a webinar on **ASCE DAY** on Friday, 5th November 2021. The session was handled by **Dennis D. Truax**, ASCE 2022 President.

Dennis Truax is the James T. White endowed Chair, Department Head, & Professor of Civil and Environmental Engineering at Mississippi State University, and the Director of the Mississippi Transportation Research Institute. Now, in his 41st year on the Mississippi State faculty, he has assumed various roles as mentor to students, staff, and faculty. Truax served on ASCE's Board of Direction as a director and Society Treasurer. He has worked on numerous ASCE committees & task forces, and he was the faculty advisor to the Mississippi State ASCE Student Chapter for 26 years.

FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)

<section-header>

Dennis D. Truax is professor emeritus of the Richard A. Rula School of Civil and Environmental Engineering at Mississippi State University. He was elected fellow of ASCE in 1999 and fellow of the National Society of Professional Engineers in 2016.

Meeting Link: https://fisat.webex.com/join/CEDEPT

The webinar began at 6:30 PM (IST) and was attended by **80 participants** including all the faculty members of the Civil Engineering Department of FISAT. The session began with the welcome address by the Head of Department of Civil Engineering, **Dr Jiji Anthony**.

This was followed by felicitation by **Er. Narsimha Chary Poloju**, India Section, Southern region President of ASCE. He thanked the student office bearers, the faculty members and the head of department for organizing the event. He then invited the resource person to begin the webinar session. A brief introduction about the resource person was given by **Theresa Jojo**, student member of ASCE FISAT Chapter.

The session began with **Dennis D Truax** talking about the history of the American Society of Civil Engineers, its importance and the need for more professionalism. He explained the evolution of ASCE as an engineering society, its influence in the American civil engineering field. He then discussed the challenges in the future for civil engineers and the need of civil engineers as leaders, master builders, stewards of sustainable infrastructure and managers of risk and explained uncertainty. He the future developments in the civil engineering society, a need for vision and infrastructure reimagined. He also discussed the societal roles of younger student members of ASCE, what are their responsibilities towards the environment, peers, clients and employers and their role as leaders of the future.

He concluded the webinar session by discussing a world of opportunities. He focused on the importance of opportunities as he said it helps us to get more good at what we are and excel in the civil engineering profession. He ended the webinar talking about the need for a sustainable society and how decisions taken by civil engineers will affect the society, the environment, the structures and resources.



Glimpses from the event

Dome Building Competition | Dr. D Y Patil Institute of Technology | 1 - 20 November 2021

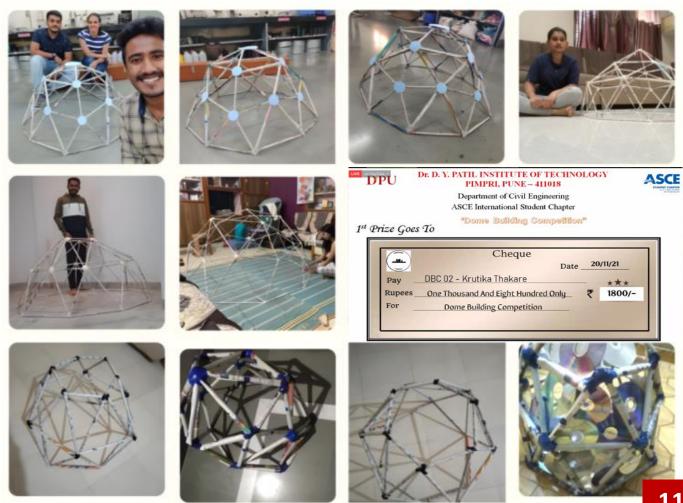
Dome Building competition was organized by **Dr. D. Y. Patil Institute of Technology, Pimpri** ASCE Student Chapter during 1 – 20 November 2021. Around 50 groups from engineering & architecture colleges, compete for this competition.

The competition prizes was sponsored by BIMVEDH, Pune. Award ceremony was graced with presence of **Dr. Har Amrit Singh Sandhu** President, ASCE India Section (NR). This competition was coordinated by **Mrs. Ashwini Salunkhe**, Assistant Professor, Civil Department. One of the objectives of this competition was to make the students aware about the sustainable solutions to real life problems.

A webinar on "**Software used in Water Resource Department**" was also organized alongside on 18th November 2021 by ASCE DIT Student Chapter. The resource person was **Mr. Sanjay Heganna**, Sub-divisional Engineer, Water Resource Department, Pune. The session gave detailing on network of automated rainfall stations for various basins like Krishna-Bheema, Pawana, etc. and also the real-time stream-flow forecasting & reservoir operation system

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Glimpses from the event



ASCE Student Symposium 2022 | Dr. D Y Patil Institute of Technology | 17 December 2021

The most prestigious event of ASCE Student Symposium 2022 was hosted by **Punjab Engineering College, Chandigarh** and **Dr. D. Y. Patil Institute of Technology, Pimpri** (ASCE DIT Student Chapter) and **University of Petroleum & Energy Studies, Dehradun**.

Inaugural ceremony of brochure & website release of ASCE India Student Symposium 2022 was organized in online mode on 17th December 2021. Principal, Dean Academics, HOD Civil, Associate Dean Research and all the faculty members of Civil Engineering Department attended this session. **Mr. Shubham Raj Vardhan**, Student President, DIT ASCE Student Chapter gave a brief introduction of activities conducted under student chapter. **Dr. Deepa A. Joshi**, Faculty Advisor of DIT ASCE Student Chapter and co-chair for the symposium, briefed about the various competitions that will be held during the symposium.

Principal **Dr. Pramod Patil**, addressed the gathering. The Student Presidents, Faculty Advisors and Directors of PEC and UPES also briefed about the Symposium. The website was launched at the hands of **Er. Thomas Smith** (ED - ASCE HQ) and **Dr. K. N. Gunalan** (ASCE President, 2020).

The brochure was released at the hands of **Dr. Pramod Patil** (Principal, DIT), **Dr. Sunil Rai** (VC - UPES) and **Dr. Baldev Setia** (Director -PEC). The program ended with vote of thanks by **Dr. Har Amrit Singh Sandhu**, President, ASCE India Section (NR) & Chair for the symposium.



Glimpses from the event

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Advertisement in ASCE IS SR Quarterly Newsletter published as Web edition	One Color Page (for four issues) INR 3,00,000 + 18% GST*	One Color Page (for one issue) INR 1,00,000 + 18% GST*	Account Name: ASCE India Section Southern Region Account No.: 0683101027959 IFSC: CNRB0000683 SWIFT Code: CNRBINBBBFD Bank: Canara Bank, IISc Bangalore Branch				

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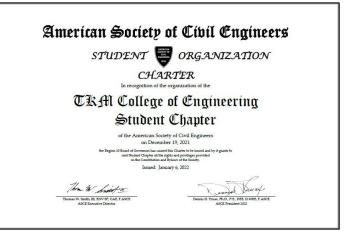
ASCE India Section News

Student Chapters News



Charter Approved:

- 1. Amrita School of Engineering Student Chapter
- 2. TKM College of Engineering Student Chapter



American Society of Civil Engineers

CHARTER

Amrita School of Engineering

Student Chapter

of the American Society of Civil Engineers on December 19, 2021

Issued: January 6, 2022

Dennie Druge Ph.D. P.E. DEE. D. WRE FASCE

the Region 10 Board of Governors has caused this Charter to be issued and by it go said Student Chapter all the rights and privileges provided in the Constitution and Bylaws of the Society.

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STUDENT 🔤 ORGANIZATION

New Student Chapters initiation

- 1. Younus College of Engineering and Technology, Kollam, Kerala
- 2. Rajagiri School of Engineering and Technology, Kerala
- 3. St. Joseph College of Engineering and Technology, Palai, Kerala
- 4. Cochin University of Science and Technology, Kerala
- 5. TocH Institute of Science and Technology, Kochi, Kerala

Forthcoming Events

- 1. 1st International Webinar Series on Recent Advancements in Enviro-Structural Confluence on 4 – 5 March 2022
- 2. 2nd International Webinar Series on Recent Advancements in GeoEnviro-Structural Confluence on 4 – 5 June, 2022
- 3. ASCE IS SR supported Technical Paper (thesis) Presentation during 18 23 April 2022





ASCE - SL

CONVENER

Dr.R.SAMSON RAVINDRAN Executive Director - MAHENDRA Dr.R.V.MAHENDRA GOWDA Principal - MAHENDRA Dr.V.SHANMUGAM Dean - SMS

ASCE -SL

ORGANIZING CHAIRS

Dr.K.VIDHYA Dr.C.T.SIVAKUMAR ASCE -SL

PROGRAM COORDINATORS

Dr.Y.SHANTHARAM Ms.V.SHANMUGAVADIVU Mr.M.VIGNESH Ms.B.NITHYA





Publications by ASCE Members

KPR Institute of Engineering and Technology, Coimbatore

- Jayaprakash, S., Dhanapal, J., & Deivasigamani, V. (2021). Flexural Behaviour of Chicken Mesh Ferrocement Laminates with Partial Replacement of Fine Aggregate by Steel Slag. *Advances in Materials Science and Engineering*, 2021. <u>https://doi.org/10.1155/2021/7307493</u>
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- Lakshmi, M., Vivek, D., Vijayalakshmi, S., Ranjitha, J., & Saravanan, A. M. (2021, September). A review on removal of industrial dyes using low cost natural adsorbents. In *AIP Conference Proceedings* (Vol. 2396, No. 1, p. 030008). AIP Publishing LLC. <u>https://doi.org/10.1063/5.0066425</u>
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Publications by ASCE Members

KPR Institute of Engineering and Technology, Coimbatore

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- Dr. Unni Kartha G, Professor, Department of Civil Engineering, Federal Institute of Science and Technology (FISAT), Angamaly, India, edited the Proceedings of Secon'21, *Lecture Notes in Civil Engineering*, 171, Springer, DOI: <u>https://doi.org/10.1007/978-3-030-80312-4</u> Hardcover ISBN978-3-030-80311-7, eBook ISBN978-3-030-80312-4

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