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"1st INTERNATIONAL CONFERNECE ON CONSTRUCTION MATERIALS AND ENVIRONEMENT [ICCME2021]" 03rd-04th JUNE 2021

The Department of Civil Engineering, Jaypee University of Information Technology, Solan, HP, India, and Indian Geotechnical Society (IGS), Shimla Chapter is organizing the *1*st *International Conference on Construction Materials and Environment (ICCME2021)* during June 03-04, 2021 in virtual mode.

The program was successfully completed under the auspices of

- **Prof. Vinod Kumar** Vice Chancellor of JUIT Waknaghat and Patron of the organized ICCME2021 by Civil Engineering Department and IGS, Shimla Chapter.
- **Prof. Samir Dev Gupta** Dean of Academics of JUIT Waknaghat
- Major General Rakesh Bassi (Retd.) Registrar and Dean of Students of JUIT Waknaghat and the Financial Chair for ICCME2021
- **Prof. Ashok Kumar Gupta** Dean of Academics and Research of JUIT Waknaghat and Principal General Chair of the organized international conference ICCME 2021.
- **Prof. Ashish Kumar** Head of Civil Engineering Department of JUIT Waknaghat.
- **Dr. Saurabh Rawat** Assistant Professor of Civil Engineering Department of JUIT Waknaghat and General Chair of ICCME2021.

The chief guest for the inaugural session was **Dr. Sanjay Kumar Shukla**, Founding Editor-in-Chief [International Journal of Geosynthetics and Ground Engineering, Springer Nature, Switzerland], Founding Research Group Leader (Geotechnical and Geoenvironmental Engineering), School of Engineering, Edith Cowan University, Perth, Australia.

ICCME 2021 was focused on the deliberations of newly developed theories, concepts, and methodologies on sustainable construction materials and sustainable environment. In order to further shares their quality research work in related area 4 International KENOTE SPEAKERS and 1 National Industry KEYNOTE SPEAKER (Eminent, globally recognized

and Experts in their field) were invited. Table 1 highlights the program schedule of the VIRTUALLY conducted *I*st *International Conference on Construction Materials and Environment (ICCME2021)* including the KEYNOTE SPEAKERS and their topic of lectures (talks) delivered by them.

This 1st International Conference on Construction Materials and Environment (ICCME2021) was conducted with the vision of bringing together researchers and practitioners from both academia as well as industry to meet and share the novel developments in the field of construction materials and sustainable environment. Even during this challenging scenario of COVID 19, ICCME received 276 full length papers. The efforts of all these authors still working during this difficult time will always be appreciated by the organizers of ICCME2021. Unfortunately, due to our narrow acceptance window, we were only able to accept 83 papers for the conference proceeding and presentation. All the accepted papers of ICCME will be published as book chapters under the reputed book volume entitled as 'Lecture notes in Civil Engineering' which is published by Springer Nature, Switzerland. The proceeding of ICCME is thus indexed in SCOPUS database and EI compendex database.

DAY – 1 ICCME2021 (JUNE 3rd, 2021, Thursday)

The inaugural program started at 10:00 AM in the morning with a virtual journey through the history of the host institution (JUIT, waknaghat) and Indian Geotechnical Society (IGS), Shimla Chapter.







The entire two days of the conference were hosted by the General Chair of ICCME2021: Dr. Saurabh Rawat, who started by the virtual curtain raising ceremony of ICCME2021.

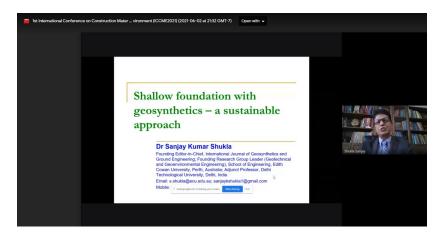


This was followed by address from the chief guest: Dr. Sanjay Kumar Shukla and all other dignitaries.



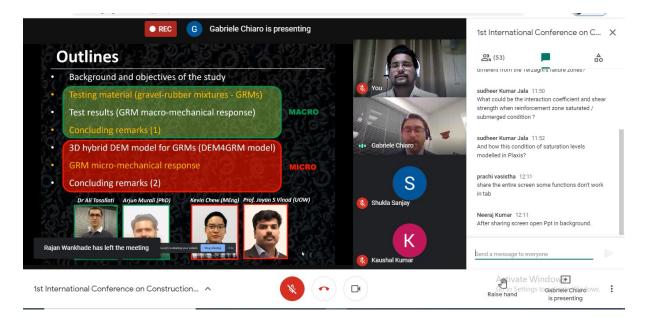
and finally, ICCME2021 was declared open by Prof. Vinod Kumar, Vice Chancellor, JUIT. The inaugural was followed by the first KEYNOTE LECTURE by Dr. Sanjay Kumar Shukla, Edith Cowan University, Perth, Australia who delivered his lecture on the Topic: Shallow

foundations with geosynthetics - a sustainable approach. Solving footing problems using Geosynthetics at different locations and in different numbers. Introduced the audience about the novel wraparound Technique developed by him to solve soft soil problems.

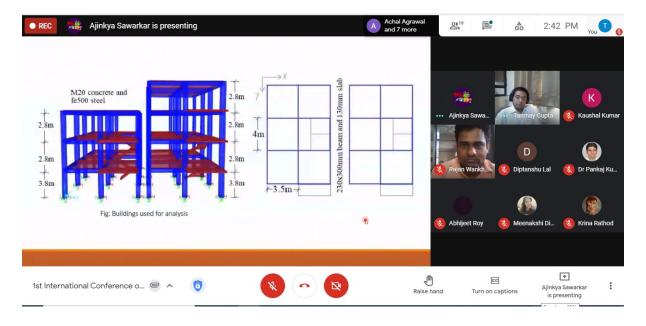


The second KEYNOTE was delivered by Prof. Gabriele Chiaro, Associate Professor from University of Canterbury, New Zealand on the topic: Macro- and micro-scale engineering response of rigid-soft gravel-rubber inclusions: insights from detailed laboratory and DEM numerical investigations. Solving waste tyre issues in New Zealand for making composites of gravel and rubber chips. The detailed investigation from laboratory testing to Discrete element method was beautifully presented and explained.

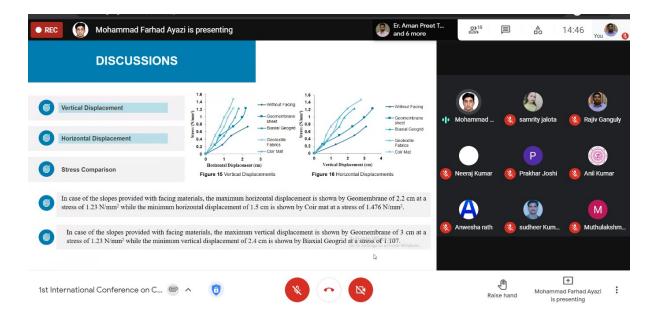




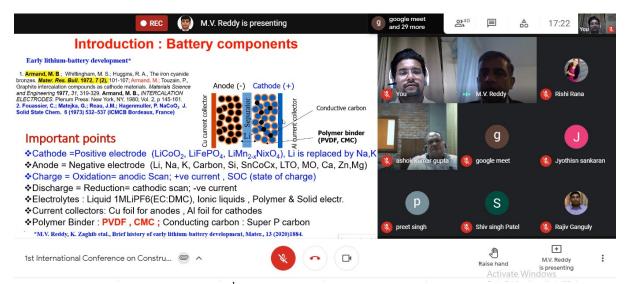
Both the KEYNOTE LECTURES were highly informative and interactive. The participants were highly engaged during the question and answering sessions after the keynotes. The inaugural session ended with starting of the technical sessions from 12:00 noon onwards. 3 parallel sessions on Track1 and Track 2 (details as given in Table 1) was also started. About 12 research works were presented and discussed prior dispersing for lunch break at 1:00 PM.



The technical session resumed and continued till 4.45 PM in the afternoon with minimum of 10 deliberations in each parallel technical session. Two sessions on Track-1 Advanced Materials and Methods in Structural engineering and One on Track-2 Geotechnics and Geoenvironmental sustainable materials.



The Day 1 of ICCME was ended on ahigh note by another keynote lecture KEYNOTE – 3 delivered by Dr. M V Reddy, Senior Researcher, Institute of Research Hydro-Québec, Canada on the Topic: Advances on Sustainable Energy Materials and Materials recycling. Focussing on novel rechargeable and re-useable batteries and components of automated windows, cars and other components of green building. For civil engineers, best methods for characterization of solid and liquid samples and attainment towards sustainable material keeping in view the emission.



A detail summary of DAY – 1 (3rd. June. 2021) of ICCME2021 is summarized in Table 1.

 Table 1: Schedule and Details of Lecture presented by different speakers

DAY I

Date: 03 - 06 - 2021 (Thursday)

GOOGLE MEET link for Inauguration & Keynotes: https://meet.google.com/hhv-nyyz-vqo

Program	Particulars	Time
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	Welcome Address and Introduction of the Dignitaries by Dr.	10.00AM-
	Saurabh Rawat, Conference Chair ICCME	10:05AM
	About ICCME2021 by Dr. Saurabh Rawat, Conference	10.05AM-
	Chair ICCME	10.10AM
01	Address by Chief Guest: Dr. Sanjay Kumar Shukla, Edith	10:10AM-
it;	Cowan University, Perth, Australia.	10:20AM
nc	Address by Prof. Vinod Kumar Gupta, Vice-Chancellor,	10:20AM-
Inaugural Function	JUIT	10:30AM
	Address by Prof. Samir Dev Gupta, Dean, Academics, JUIT	10:30AM-
al		10:35AM
TT.	Address by Major General (Retd.) Rakesh Bassi, Registrar,	10:35AM-
50	(Finance Chair, ICCME 2021), JUIT	10:40AM
nr T	Address by Prof. Ashok Kumar Gupta, Dean Academic &	10:40AM-
11.5	Research, (Principal General Chair, ICCME), JUIT	10:50AM
	Address by Prof. Ashish Kumar, HoD Civil, JUIT	10:50AM-10:
		55AM
	Vote of Thanks by Dr. Saurabh Rawat, Conference Chair	10:55AM-
	ICCME	11:00AM

GOOGLE MEET link for Inauguration & Keynotes: https://meet.google.com/hhv-nyyz-vqo

Program	Particulars	Time
KEYNOTE	Keynote Address-1 Speaker: Dr. Sanjay Kumar Shukla, Founding Editorin-Chief [International Journal of Geosynthetics and Ground Engineering, Springer Nature, Switzerland], Founding Research Group Leader (Geotechnical and Geoenvironmental Engineering), School of Engineering, Edith Cowan University, Perth, AustraliaEdith Cowan University, Perth, Australia. Topic: Shallow foundations with geosynthetics - a sustainable approach Moderator: Dr. Saurabh Rawat	11:00 AM – 11:30 AM
\mathbf{Z}	Particulars	Time
	Keynote Address-2	
	Speaker: Prof. Gabriele Chiaro, Associate Professor, University of Canterbury, New Zealand.	44.20.43.4
	Topic: Macro- and micro-scale engineering response of rigid-soft gravel-rubber inclusions: insights from detailed laboratory and DEM numerical investigations Moderator: Dr. Saurabh Rawat	11:30 AM – 12:00 Noon

Program	Particulars	Time
	Technical Sessions	12:00 – 1:00 PM
Program	Particulars	Time
	Lunch Break	1:00 – 2:00 PM

Program	Particulars	Time
	Technical Sessions	2:00 – 5:00 PM

GOOGLE MEET link for Keynote: https://meet.google.com/hhv-nyyz-vqo

Program	Particulars	Time
E	Industry Keynote Address-3	
I.R OT	Speaker: Dr. M V Reddy, Senior Researcher, Institute of	
N N	Research Hydro-Québec, Centre of Excellence in	5:00 PM- 5:30 PM
DI	Transportation Electrification and Energy Storage,	
INDUSTRY KEYNOTE	Hydro-Québec, Canada.	

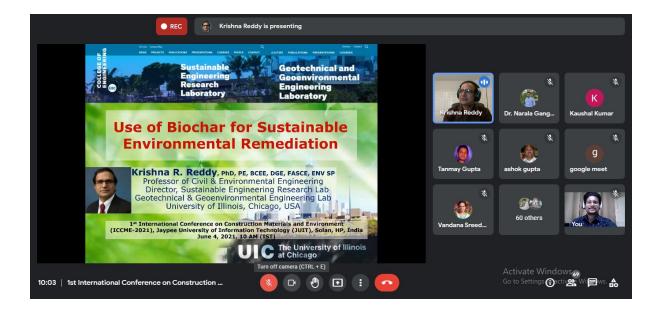
	Technical Session Schedule				
	Date:	: 3rd June 2021		Time: 12:00 No	oon – 5:00PM
Session No.	Virtual Room	GOOGLE MEET link	Session-chair	Track No. & Topic	Submission IDs
1	CR 01	https://meet.google.com/naq- atcd-mms	Chair 1: Dr. Abhilash Shukla, IIT Delhi Chair 2: Dr. Saurav, JUIT, Solan	Track -1 Advanced Materials and Methods in Structural engineering	10, 13,21,30,45, 47, 48, 62, 80, 83, 111, 88, 136, 97, 131, 51
2	CR 02	https://meet.google.com/yhp- zrdy-bhg	Chair 1: Dr. Pankaj Kumar, NIT Nagaland Chair 2: Dr. Tanmay Gupta, JUIT, Solan	Track -1 Advanced Materials and Methods in Structural engineering	5, 9, 20, 38, 84, 27, 29, 53, 112, 130, 109, 67, 92, 89,110
3	CR 03	https://meet.google.com/vqc- kori-pqg	Chair 1: Dr. Anil Dhiman, CCET, Chandigarh Chair 2: Dr. Rajiv Ganguly, JUIT, Solan	Track-2 Geotechnics and Geoenvironmental sustainable materials	37, 42, 126, 44, 49, 50, 69, 121, 129, 73, 33, 139, 93
		Topic: Advances on Sustai Materials recycling Moderator: Dr. Saurabh Ra		nd	

DAY - 2 ICCME2021 (JUNE 4th, 2021, Friday)

The second day DAY - 2 of ICCME started from 9.30 AM with the General Chair of ICCME: Dr. Saurabh Rawat welcoming the Keynote speakers and other dignitaries. Dr. Rawat gave a summary of events of Day – 1 of ICCME2021 to get things started. He handed over the virtual podium to Prof. Dr. Ashok Kumar Gupta, Dean, Academics and Research and the Principal General Chair of ICCME2021 who shared his thoughts on the progress of the international conference from Day 1.

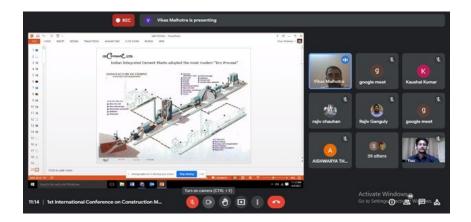


He also welcomed the first KEYNOTE of Day - 2 of ICCME, Prof. Krishna R. Reddy from University of Illinois, Chicago USA for his lecture on the Topic: Use of Biochar for Sustainable Environmental Remediation. Preparation of biochar and its wide application in wastewater treatment, storm water treatment, landfilling as barriers and research opportunities available as biochar varies with its original source content from which it is derived.



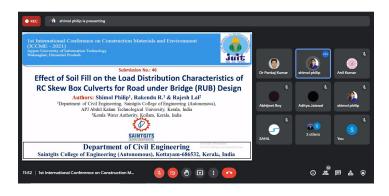


The first keynote lecture was followed by the first industrial keynote by Mr. Vikas Malhotra, General Manager, Technical Services, J. K. Cements Ltd. India. His topic Cement based value added products introduced the participants to the newly developed cement-based products like JK PrimaXX- New wall finish, JK Tilemaxx- Tile adhesive, and J K Levelmaxx .

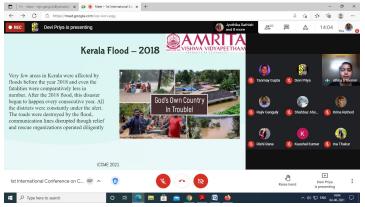


The Keynote lectures were highly praised for their vivid presentation, in depth research orientation and interactive session post deliberation. The Keynotes were followed by three parallel session with 18 deliberation completed before lunch and 21 post lunch under various tracks.









Day 2 39 presentation out of 39 in three parallel technical sessions on different tracks:

- Track-1 Advanced Materials and Methods in Structural engineering
- Track-3 Bio inspired engineering materials
- Track-4 Recent developments in Transportation Engineering and Urban Planning

The details of Day -2 is summarized in Table 2.

DAY II

Date: 04 - 06 - 2021 (Friday)

GOOGLE MEET link for Welcome & Keynotes: https://meet.google.com/hhv-nyyz-vqo

Program	Particulars	Time
	Welcome Address by Dr. Saurabh Rawat,	09.30AM-09:35AM

Conference Chair ICCME	
Summary (Day 1) of ICCME2021 by Dr. Saurabh Rawat, Conference Chair ICCME	09.35AM-09.45AM
Address and Welcome by Principal General Chair: Prof. Ashok Kumar Gupta, Dean Academic & Research, JUIT	09:45AM-09:50AM
Welcome of Keynote Speaker by Dr. Saurabh Rawat, Conference Chair ICCME	09:50AM-10:00AM

GOOGLE MEET link for Welcome & Keynotes: https://meet.google.com/hhv-nyyz-vqo

Program	Particulars	Time
KEYNOTE	Keynote Address-1 Speaker: Prof. Krishna R. Reddy, Professor, Civil and Environmental Engineering, Director of Sustainable Engineering Research Laboratory, and Director of the Geotechnical and Geoenvironmental Engineering Laboratory, University of Illinois, Chicago, USA Topic: Use of Biochar for Sustainable Environmental Remediation Moderator: Dr. Saurabh Rawat	10:00 AM – 10:40 AM
Program KEYNOTE	Particulars Keynote Address-2 Speaker: Mr. Vikas Malhotra, Managing Director, Technical services, J. K. Cements Ltd., India Topic: Cement based value added products Moderator: Dr. Saurabh Rawat	Time 10:40 AM – 11:15 AM

Program	Particulars	Time
Technical Sessions		11:30 – 1:00 PM
Program Particulars Time		Time
	Lunch Break	1:00 – 2:00 PM
Program	Particulars	Time
	Technical Sessions	2:00 – 4:15 PM

Technical Session Schedule

Date: 4th June 2021

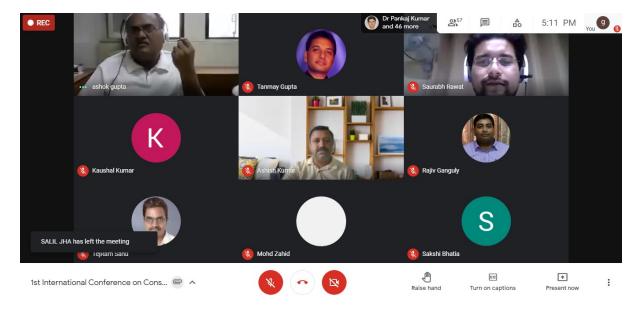
Session Virtual No. Rooms	GOOGLE MEET link	Session-chair	Track No. & Topic	Submission IDs
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Time: 11:30 AM - 4:45PM

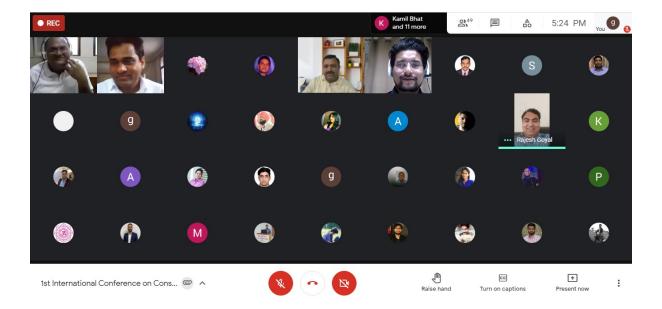
1	CR 04	https://meet.google.co m/qjy-vthf-bus	Chair 1: Dr. Pankaj Kumar, NIT Nagaland Chair 2: Dr. Anil Dhiman, CCET, Chandigarh	Track -1 Advanced Materials and Methods in Structural engineering	108, 137, 46, 95, 113, 85, 87, 114, 122, 119, 144, 96, 94, 24,74
2	CR 05	https://meet.google.co m/vqc-kori-pqg	Chair 1: Dr. Rajiv Ganguly, JUIT, Solan Chair 2: Dr. Tanmay Gupta, JUIT, Solan	Track -3 Bio – inspired engineering materials	52, 11, 60, 43, 78, 82, 70, 86, 76, 75, 120
3	CR 06	https://meet.google.co m/naq-atcd-mms	Chair 1: Dr. Abhilash Shukla, IIT, Delhi Chair 2: Dr. Saurav, JUIT, Solan	Track-4 Recent developments in Transportation Engineering and Urban Planning	54, 57, 72, 59, 61,14,79,16,15,142,19,32, 25

Finally, the two eventful days of the *I*st *International Conference on Construction Materials and Environment (ICCME2021)* during June 03-04, 2021 in virtual mode by department of Civil Engineering, JUIT and IGS, Shimla Chapter reached its valedictory session.

The session was graced by the chief guest Prof. Dr. Ashok Kumar Gupta, Dean academics and research and the Principal General Chair of ICCME2021. The summary of the DAY – 1 and DAY – 2 with all the facts and figures were communicated by Dr. Saurabh Rawat, Conference General Chair ICCME2021. This was followed by the address from the Chief Guest Prof. Dr. Ashok Kumar Gupta, Dean academics and research and the Principal General Chair of ICCME2021. 6 best paper awards from 6 parallel session in the form of a cash prize of Rs. 4000/- each and E – certificate was declared by the Chief guest.



A verbal feedback along with feedback in google forms was also from the attendees and delegates. The event was finally closed by vote of thanks from Prof. Dr. Ashish Kumar, HoD, Department of Civil Engineering, JUIT and General conference Chair, Dr. Saurabh Rawat.



The participation in *I*st *International Conference on Construction Materials and Environment (ICCME2021)* during June 03-04, 2021 in virtual mode was overwhelming with a large number of participants from across India such as Jammu & Kashmir, Tamil nadu, Delhi, Orissa, Maharashtra, Karnataka, Kerela, Uttarakhand, Rajasthan, Madhya Pradesh and few from United Kingdom, Euthopia and Afghanistan. For this conference, 81% participants ranked it as excellent with a rating of 5/5. The participants were happy with the organization, technical contents and suggestion given during technical sessions. The most common feedback from the participants was that its first conference of its own kind where helpful suggestions is given during technical sessions and it not the case in other technical session of any other conferences. For this I extended my sincere thanks to all the Session Chairs namely:

Dr. Pankaj Kumar, NIT, Nagaland

Dr. Anil Kumar, CCET, Chandigarh

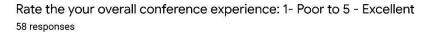
Dr. Abhilash Shukla, MITS, Gwalior

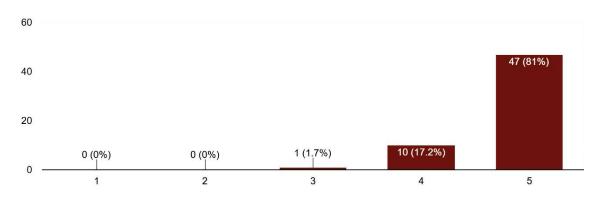
Dr. Rajiv Ganguly, JUIT

Dr. Saurav, JUIT

Dr. Tanmay Gupta, JUIT.

The overall summary of the participants and their feedback is given in the bar chart below.





In the last I would like to thank all the KEYNOTES, SESSION CHAIRS and PC MEMBERS for contributing and making this first international conference a success for Department of Civil Engineering and IGS, Shimla Chapter. I also express my deepest gratitude towards Mr. Rajesh Sahu and Mr. Pradeep for their consistent hard work dealing with the technical support during the entire conference as it could have not been conceivable to make it a major accomplishment without their magnanimous exertion even during such constraints. I would also thank Mr. Prag Sangha, Website manager, ICCME2021 for his support and consistent efforts. Last but not the least to all the authors/presenters/participants without their contribution, it was impossible to make ICCME2021 happen.

Other Salient Features

- Video Recording of all lectures by the KEYNOTE Speakers is available with the organizing committee.
- Video Recording of Technical Sessions of various Tracks is available with the organizing committee.
- Certificates of participation issued to all registered participants.
- Cash prize award of Rs. 4000/- and E Certificates to all the winners of best paper award issued to all the winners.
- Feedback collected from participants for further improvement in conducting such future online Workshops



निर्माण सामग्री व पर्यावरण पर अंतर्राष्ट्रीय सम्मेलन करवाया

नई दिल्ली, 5 जून (सबेरा): सिविल इंजीनियरिंग विभाग जे.पी. यूनिवसिंटी ऑफ इन्फॉर्मेशन टैक्नोलॉजी सोलन एच.पी. और इंडियन जियोटैक्निकल सोसायटी शिमला चैप्टर ने 3 और 4 जून के दौरान वर्चुअल मोड में निर्माण सामग्री और पर्यावरण पर अपना पहला अंतर्राष्ट्रीय सम्मेलन आयोजित किया। उद्घाटन सत्र के मुख्य अतिथि डा. संजय कुमार शुकला संस्थापक, संपादक उद्घाटन के दौरान उपस्थित अन्य गणमान्य व्यक्तियों में प्रोफैसर विनोद कुमार कुलपित यू.आई.टी. वाकणाघाट और आई.सी.सी. ए.मी. के संरक्षक प्रोफैसर समीर देव गुप्ता डीन ऑफ एक डिमक्स जे.यू.आई.टी. मेजर जनरल राकेश बस्सी सहित कई गणमान्य उपस्थित थे।

With Regards

Dr. Saurabh Rawat General Chair, ICCME2021

Assistant Professor [SG]
Department of Civil Engineering
Jaypee University of Information Technology Waknaghat