DEPARTMENT OF CIVIL ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY ROORKEE
ROORKEE - 247 667 (UTTARAKHAND) INDIA

FROM THE HOD'S DESK

Dear All,

The second newsletter of the department is being sent to you to highlight the activities during the 2nd phase of the pandemic. By the Grace of God, the faculty and their families sailed through safety. This session, the department carried its teaching through online mode; however, the research and consultancy activities did suffer to some extent. Hopefully, the second half will see more activities.

Thanks
Prof. Sanjay Kumar Ghosh

DEPARTMENTAL ACHIEVEMENTS IN BRIEF

1. 05 Research projects were sanctioned at total cost of ₹ 942.85 lacs.
2. A total of 07 students were awarded their Ph.D. degrees.
3. The faculty published 25 Research Publications in peer reviewed journals.
4. 132 numbers of Consultancy projects from various government agencies and private organizations were carried out at total value of ₹ 501.90 lacs.
5. 02 new Faculty members joined the department as Assistant Professor.

JOINING OF NEW FACULTY

Dr. Sanhita Das joined as Assistant Professor on February 24, 2021. She has carried out her doctoral studies at Indian Institute of Technology, Guwahati, M.Tech. at Indian Institute of Technology, Guwahati and B.Tech. at National Institute of Technology, Silchar. Her area of specialization is Transportation Engineering.

Dr. Nikhil Saboo joined as Assistant Professor on July 1, 2021. He has carried out his doctoral studies at Indian Institute of Technology, Roorkee, M.Tech at Indian Institute of Technology, Kharagpur and B.E. at Meghnad Saha Institute of Technology - West Bengal University of Technology. His area of specialization is Transportation Engineering. He has served at BITS Pilani, Pilani Campus, Rajasthan & IIT (BHU), Varanasi as Assistant Professor.

RECOGNITIONS

Prof. Praveen Kumar
Professorial Chair
Ministry of Road Transport and Highway

Prof. Mahendra Singh
Chairman
IGS Roorkee Chapter

Prof. V. A. Sawant
Honorary Secretary of Indian Society of Earthquake Technology

ALUMNI EXCEL

Shri Sushil Chandra

Shri Sushil Chandra has assumed charge as the new Election Commissioner (EC) of India on 15th of February 2019. Born on 15th May 1957 Shri Chandra is a 1980 batch Indian Revenue Service Officer. In the IRS service he has rendered his service in various States viz; Uttar Pradesh, Rajasthan, Delhi, Gujarat and Maharashtra. Shri Chandra did his B.Tech. (Civil Engg.-1977) from University of Roorkee (now IIT Roorkee) and received Distinguished Alumnus Award from his alma mater in 2019. He did L.L.B. from D.A.V. College, Dehradun, Shri Chandra has worked extensively in the areas of International Taxation and Investigation at various places. Shri Chandra brings rich experience from his position of Director of Investigation, Mumbai and Director General (Investigation), Gujarat. Besides this, he has undergone various training programmes at Singapore, IIM Bangalore & Wharton. Prior to joining ECI Shri Chandra held the office of Chairman in Central Board of Direct Taxes, Department of Revenue, Ministry of Finance, and Government of India.

Dr. Satish Chandra Agnihotri

Dr. Satish Chandra Agnihotri (IRSE:1982) (Retd.), Former Chairman and Managing Director, Rail Vikas Nigam Limited has taken over charge as Managing Director, National High Speed Rail Corporation Ltd. on 01st July, 2021. He holds a Bachelor of Engineering (Civil), 1982 and Master of Engineering (Structures), 1984, both from IIT, Roorkee and was conferred the distinguished Alumnus Award in 2013 by IIT, Roorkee. Dr. Agnihotri comes with more than 19 years of experience in implementation of mega rail infrastructure projects. He has worked as Chairman & Managing Director, Rail Vikas Nigam Limited (RVNL), a schedule 'A' CPSE under the Ministry of Railways for close to 9 years. He also held the position of Chairman, High-Speed Rail Corporation Ltd (HSRC), a fully owned subsidiary of RVNL since its inception in July 2012 till August 2018.

APPOINTMENTS

Joint Faculty at Centre for Artificial Intelligence and Data Science

Congratulations to Prof. M. Parida on being appointed as Head of newly created Centre for Artificial Intelligence and Data Science. Prof. Jayanta Kumar Ghosh, Prof. Indrajit Ghosh, Prof. Amit Agarwal, and Prof. Alok Bhardwaj has been appointed as Joint faculty in the Centre.

Prof. Manoranjan Parida
Head
Centre for Artificial Intelligence and Data Science

Prof. Jayanta K. Ghosh

Prof. Indrajit Ghosh

Prof. Amit Agarwal

Prof. Alok Bhardwaj

Joint Faculty at Centre for Nanotechnology

Congratulations to Prof. Rajib Chowdhury and Prof. Sudipta Sarkar on being appointed as Joint faculty in the Centre for Nanotechnology.

Prof. Rajib Chowdhury

Prof. Sudipta Sarkar

RESEARCH PROJECTS AWARDED

Name of Principal Investigator	Research Project	Amount ₹(Lacs)
Prof. Sonalisa Ray	"Modelling, Simulations and Dynamic Fracture Behaviour of Composites under High Strain Rate Loading" Funded by Armament Research Board, New Delhi	48.73
	"Fracture Performance of Reinforced Concrete Members in Coupled Corrosion and Fatigue Environment" Funded by Science and Engineering Research Board (SERB), New Delhi	48.00
Prof. Kaustav Chatterjee	"Behaviour of Soil Slopes with Embedded Pipeline Subjected to Blast Loading and Liquefaction Effects" Funded by Board of Research in Nuclear Sciences (BRNS) - Department of Atomic Energy (DAE), Govt. of India	21.77
Prof. Kamal Jain	"UAV/Drone Survey/Resurvey and Updating of Survey & Settlement records in planning Zone N of DDA" Funded by Delhi Development Authority	791.25
Prof. A. A. Kazmi (PI) & Dr. Vinay Kumar Tyagi(Co-PI)	"Characterization of Dewatered Sewage Sludge from Co-treatment and Fecal Sludge from FSTP- A Driver for Improved Sanitation" Funded by National Institute of Urban Affairs	11.80
Prof. A. A. Kazmi (PI) & Dr. Muntjeer Ali (Co-PI)	"Novel Nano-Technological Approach for the Treatment of Phthalates in Common Effluent Treatment Plant and Tannery Cluster Effluent in the Vicinity of River Ganga Basin" Funded by Indian Institute of Technology Roorkee	21.3

MEMBER OF NATIONAL / INTERNATIONAL COMMITTEE

Name of Faculty	Organization
Prof. Sharad Kumar Jain	• Project Appraisal & Monitoring Committee (Hydrology and Cryosphere), Ministry of Earth Science • Research Advisory Committee, CIFRI • Program Advisory Committee (PAC)-Earth & Atmospheric Sciences (SERB) • Member, Project Monitoring Committee (PMC) for "Preparation of DPR for Kalpasar Dam", constituted by the Ministry of Earth Sciences
Prof. Kamal Jain	• Member, Task Group -2 (TG-2) of CIPA 2
Dr. Vinay Kumar Tyagi	• Member, WATMOC: Asia Pacific Network for Wastewater Monitoring of COVID-19
Prof. Saurabh Vijay	• Lead Editor, Polar Bytes - a biannual newsletter of Indian Polar Research Network (APECS India)
Prof. Kaustav Chatterjee	• Joint Secretary, IGS Roorkee Chapter

MEMBER OF INSTITUTE COMMITTEE

Name of Faculty	Organization
Prof. Gargi Singh	Chairman, Committee for Campus Fauna (CCF), IIT Roorkee
Prof. Priti Maheshwari	Coordinator, E-Learning Centre, IIT Roorkee
Prof. B. P. Vellanki	Member of the Green Committee, IIT Roorkee
Prof. Anupam Chakraborty	Coordinator, NBCC Research & Development Centre at Greater Noida Extension Centre, IIT Roorkee
Prof. Indrajit Ghosh	Member of Senate Committee on Scholarships & Prizes (SCSP)

GUEST EDITOR

Prof. Sharad Kumar Jain	Journal of Hydrologic Engineering, ASCE. (Special Issue)
Prof. Kamal Jain	Special Issue Journal of Indian Society of Remote Sensing Frontiers in Environmental Sciences
Dr. Vinay Kumar Tyagi	Editorial Board Member, Frontiers in Environmental Sciences, Since Mar 2021

AWARDS (FACULTY)

Name of Faculty	Name of Award
Prof. Sudipta Sarkar	The winner of the "Dare to Dream 2.0" innovation contest in the individual category. Prof Sarkar participated in the contest with his entry entitled "Hybrid Anaerobic Reactor and Microbial Fuel Cell for Enhanced Biodegradation and Energy Harvesting from Wastewater containing TNT - HAnMFC" under the problem domain of "Eco-friendly Explosive Waste Management." Prof. Sarkar will receive a cash prize of ₹5 lakhs under individual category. The contest "Dare to Dream 2.0" was initiated in the memory of former President of India, Dr. APJ Abdul Kalam, to identify ideas and technologies having potential for future adoption for Indian defence and aerospace needs. It aims to unearth disruption ideas and concepts by the DRDO in the emerging technologies by individuals & startups for enhancing defence capabilities.
Prof. Kaustav Chatterjee	Young Scientist Research Award Board of Research in Nuclear Sciences (BRNS) - Department of Atomic Energy (DAE), Govt. of India
Prof. Satyendra Mittal	Academic Excellence in Faculty (National Category) under IEI BLC-FCRIT Excellence Award
Prof. Vinnarasi R.	"Prof. U.C. Kothyari - ISH Best Ph.D. Thesis Award" for the year 2020

AWARDS & NOMINATION (STUDENTS)

Mr. Prateek Tripathi

(i) Consolation prize in the Simulation category of the "International Sci-Art Image Competition" jointly organized by the Indian National Young Academy of Science (INYAS), Indian Institute of Technology, Hyderabad, and CARBON Lab, with the support of National Young Academy of Bangladesh (NYAB), and Thai Young Scientists Academy (TYSA).

(ii) Mr. Prateek Tripathi has featured in the first L3Harris Geospatial Student Spotlight. L3Harris Geospatial has more than 40 years of experience developing scientifically proven and in-depth solutions of advanced geospatial analytics, machine learning, and remotely sensed data to make better decisions. Prateek, who works on Hyperspectral remote sensing of Earth, Moon, and Mars as his Ph.D. project, earned this feature because of extensive experience with L3Harris ENVI software while working in the Geomatics Engineering group. His work on Remote sensing data is promoted by L3Harris Geospatial and earned him a free ENVI+IDL 1-year student license, which will be crucial for achieving his Ph.D. goals. It is a proud moment for the Department and institute that an esteemed and commercial geospatial company features a Civil-IITR student. Department congratulates Mr. Prateek on his endeavour. A blog on his work is published on the L3Harris Geospatial website at-

Https://www.l3harrisgeospatial.com/Learn/Case-Studies/Case-Studies-Detail/ArtMID/10204/ArticleID/24065/Student-Spotlight-Summer-2021

 **Ms. Dyutishree Halder**	General Secretary, Technical Affairs, Student's Affairs Council, The Green Committee.	 **Mr. Vishal Mishra**	Best Paper Award in International Conference on Unmanned Aerial System on Geomatics.
 **Ms. Kenyum Bagra**	DAAD scholarship to carry out part of her doctoral research in University of Dresden.	 **Mr. Sunni Kanta Prashad Kushwaha**	• Best Paper Award in International Conference on Unmanned Aerial System on Geomatics. • Nominated as Mentee for Board of Directors of the International Society of Photogrammetry and Remote Sensing Student Consortium (ISPRS SC).

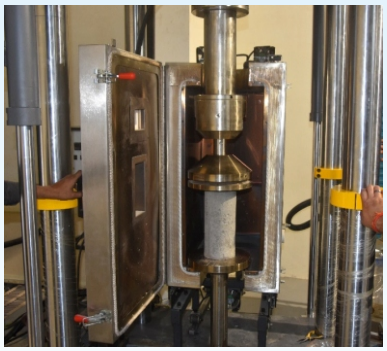
INFRASTRUCTURE (NEW LAB INSTRUMENTS)

500 kN Fatigue Testing Equipment

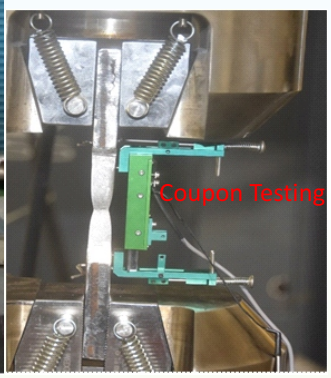
Fatigue testing equipment is a basic test facility that is commonly used for the testing of structures or structural components under the action of fluctuating loads. In order to perform cyclic/fatigue testing, the machine needs to perform at speeds much faster than (10 to 100 times) the majority of conventional Universal Testing Machine. This servo-hydraulic 500 kN fatigue testing facility in the department of Civil Engineering is unique in IIT Roorkee, which can perform a wide variety of low and high cycle fatigue, crack propagation, fracture toughness and other dynamic tests. The machine is equipped with environmental chamber for carrying out thermo-mechanical fatigue testing of materials and components across a broad range of temperature -120^{0}C to 500^{0}C. Tensile testing of rebars and coupons in ambient, elevated and sub-zero temperature conditions is possible through the all temperature hydraulic wedges. Additionally, there is provision for performing testing of structural members in the coupled corrosion-fatigue environment. The unique facility can also be used for the testing of small specimens to perform material characterization with reasonable accuracy by connecting to 100 kN load cell. A typical output in terms of load and crack mouth opening displacement derived through fatigue testing is presented in Figure 1.

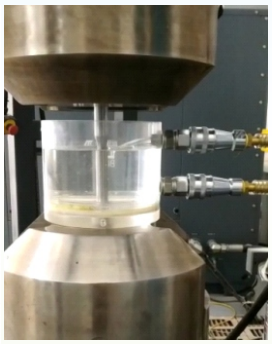
Cost ₹ 2.57 Crore

500 kN Fatigue Testing Equipment


Environmental Chamber

Crack Mouth Controlled Three Point Bend Testing


Coupon Testing


Coupled Corrosion Fatigue Testing

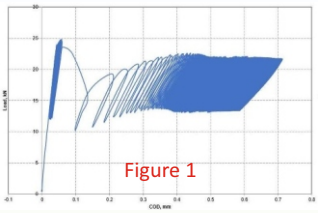


Figure 1


Portable Air Pollution Monitor
Cost ₹ 31,500.00

The Portable Air Pollution Monitors are designed with 3G/4G connectivity to transfer the data to a server, sensors to measure PM1, PM2.5, PM10, GPS, power source, sensors for other meteorological parameters (wind speed, relative humidity, temperature etc.) and storage. The data sampling frequency (e.g. 1 min) can be remotely configured. The device supports the upgrade for the gas pollutants.

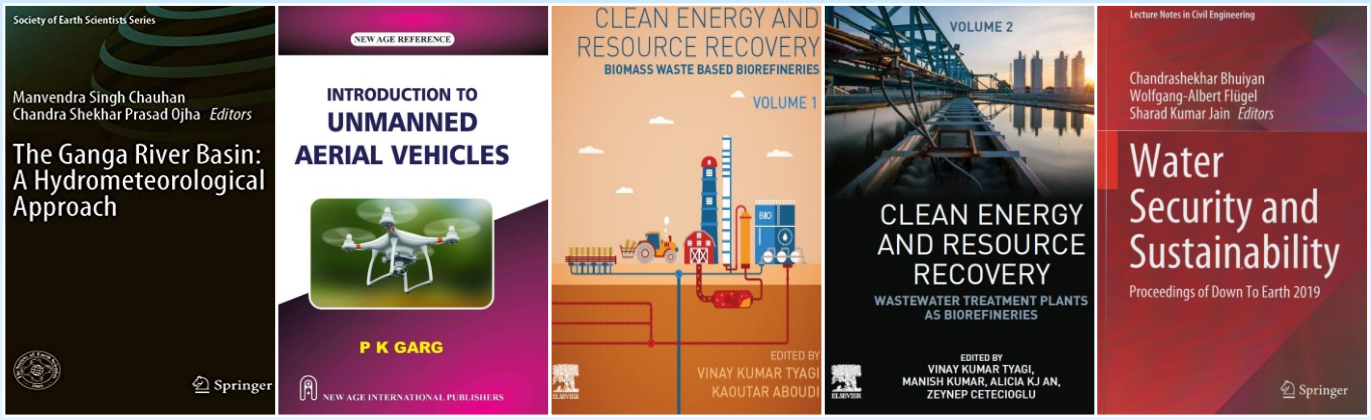
LG Professional Large Format Display Touch Screen (06 No.) **Cost ₹35.10 Lakhs**	Lumens PTZ Video Conferencing Camera (06 No.) **Cost ₹ 8.22 Lakhs**


Godrej Forklift Truck (Diesel)
Cost ₹ 8.61 Lakhs

Photocatalytic reactor setup containing UV lamp, Quartz tube in which UV lamp placed, reactor setup with stirrer, reactor with UV illumination, and reactor with outer metal shade with AC-DC power converter.

Cost ₹ 3.00 Lakhs

BOOK PUBLISHED



MOU WITH FERDOWSI UNIVERSITY OF MASHHAD (FUM)

The virtual signing ceremony of MoU on academic collaboration between Ferdowsi University of Mashhad (FUM) and Indian Institute of Technology Roorkee held on April 19, 2021. The MoU was established in presence of the following members from both the universities.

IIT Roorkee, India:

- Prof. Ajit K. Chaturvedi, Director
- Prof. S.K. Ghosh, HoD, Department of Civil Engineering
- Prof. C.S.P. Ojha, Professor of Department of Civil Engineering
- Prof. P. Arumugam, Dean of International Relations and Professor of Department of Physics

FUM, Iran:

- Prof. Mohammad Kafi, President
- Dr. Hossein Banejad, Water Sciences and Engineering Department
- Prof. Kamran Davary, Water Sciences and Engineering Department
- Dr. Ehsan Ghabool, Director of International Academic and Scientific Relations
- Dr. Seyed Hadi Ebrahimi, Head of the Permanent Secretariat of Scientific Cooperation between Iran and India

INDO-IRAN WEBINAR ON WATER SECURITY, JULY 03, 2021

Prof. Sharad K. Jain delivered a talk on "Aspects of Water Security in India" in the Indo-Iranian Webinar held on July 03, 2021. Water security is the "Capacity of a population to safeguard sustainable access to adequate quantities of acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development. It also requires ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability." He noted that the Thomason College of Engineering (predecessor of IIT Roorkee) was set up to construct the Upper Ganga Canal to provide water security to Western UP area. Water has a key role in many of the Sustainable Development Goals (SDGs); SDG 6 is specifically focused on water. Water security involves complex and interconnected challenges. Water is used for various purposes: domestic needs, irrigation, energy generation, recreation, environmental protection and rejuvenation, and so on. Water-borne disasters, floods and droughts, continue to haunt the society recurrently. The talk covered four aspects of water security: Sustaining livelihoods Domestic Water Use, Socio-economic development, Preserving ecosystems, and Protection against water-related disasters.

Finally, it was noted that water is central in broader security frame, sustainable development, and human well-being. Good water governance is essential to achieve water security that requires well-designed and empowered institutions, supporting legislations and policies. Water security will be compromised due to climate change that will induce more variability and more disasters. A nexus approach can enhance Water-Energy-Food security and check unintended consequences. Integrated Water Resource Management offers a broad framework to address all the issues comprehensively. Finally, a combination of nature based and "hard" measures will provide affordable and lasting solutions.

CONSTRUCTION

Raiwala Skew Underpass construction with soil Nails

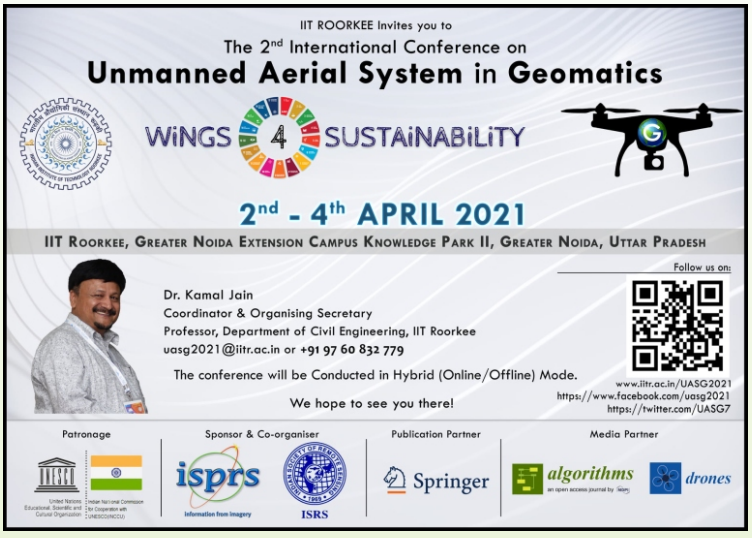
Two underpasses have been constructed in Raiwala (about 9 kms. from Haridwar) on national highway. The work was highly challenging as existing railway embankment had to be cut and precast concrete skew underpass (tunnel) of 24 m length, 9 m high and 12 m wide had to be inserted there. The work had to be finished very fast due to upsurge of Kumbh Mela. The soil nailing was the only solution possible for this work without disrupting the rail traffic. In this project, NHAI, UP Bridge Corporation, Northern railways were main departments who were involved in this project and all of them reposed confidence in soil nailing technology**. Prof. Satyendra Mittal** of Civil Engineering Department, IIT Roorkee designed soil nailing for this project and successfully completed this project despite the silty clay soil present at site and many other local problems at site.

Traditional Technology on Himalayas

A house has been construed in the Himalayas using a reinterpreted traditional technology and have revived the traditional lime mortar techniques. **Prof. Sanjay Chikermane** of Civil Engineering Department, IIT Roorkee implemented this traditional technology and successfully completed this project during the COVID-19 pandemic period.

INTERNATIONAL CONFERENCE/LECTURE SERIES

International Conference on Unmanned Aerial System on Geomatics (UASG)- 2021



UASG was a virtual event and saw a huge participation on international level. The event was inaugurated by Shri Amber Dubey (Joint Secretary in Ministry of Civil Aviation), Shri B.V.R. Mohan Reddy (Executive Chairman of Cyient), Prof. Ajit Chaturvedi (Director at IIT Roorkee), Prof. Sanjay Kumar Ghosh (Head, Civil Engineering Department) and Prof. Jain (Organizing Secretary- UASG-2021). Prof Amber Dubey appreciated the initiative. There were more than 500 participants across the world who attended this event, where 8 keynote speakers and more than 25 eminent experts in field of Unmanned Aerial Systems across the world addressed the gathering. Dr. Omkar Rai, Director General of STPI, Ministry of Electronics and Information Technology, Government of India and Chairman, AIC STPINext was the chief Guest of the Valedictory Function. Guest of Honour was Dr. P.S. Acharya, Head & CEO, NSDI Division, Department of Science & Technology, Govt. of India. The event was co-organized by ISPRS which is reputed international society in field of Remote Sensing.

The financial supporters of the event were DRDO, Meity, NeGD, Digital India, Survey of India, CSIR, SP Singla. The conference received support from Springer, PFG Journal of Photogrammetry, Remote Sensing and Geoinformation Science, Journal of Unmanned Systems, MDPI-Drones and MDPI Algorithms for publication and publicity. The conference was very successful and through the name of institute and department reached a new level.

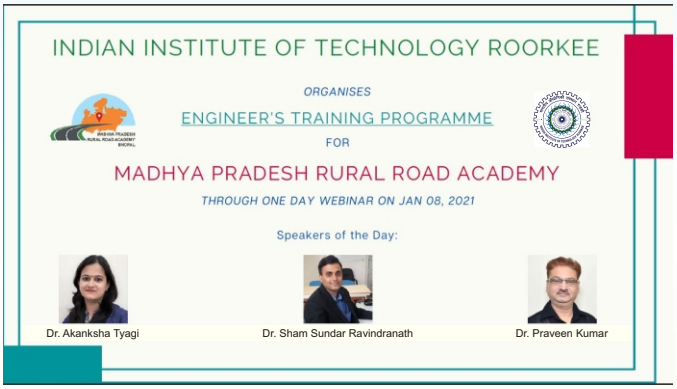
Advanced Finite Element Modelling of Geotechnical Constructions: 25th March to 27th May 2021

The Civil Engineering Department, Indian Institute of Technology Roorkee organized an international short course "Lecture series on Advanced Finite Element Modelling of Geotechnical Constructions" from 25th March to 27th May 2021, every Thursdays 4.30 to 6.30pm. The coordinator of this course was *Dr. Akanksha Tyagi,* ***Assistant Professor, Civil Engineering Department, IIT Roorkee***

The lecture series comprised of 10 online lectures, of which first 8 lectures were delivered by *Prof Lee Fook Hou, Professor, Civil and Environmental Engineering, National University of Singapore and Distinguished Visiting Professor, Civil Engineering Department, IIT Roorkee*. The last two lectures were delivered by ***Dr. Akanksha Tyagi***. Topics like "Finite Element Modelling (FEM) Basics, Constitutive Models, Tips on FE Analysis Using Abaqus, Case studies 3D modelling of Nicoll Highway Collapse and Fort canning Tunnel Singapore, Random FEM of tunnels in spatially variable cement-admixed surrounds" were covered in approx. 20 hours' duration course. Total of 77 participants including 14 International participants from Singapore, China, Hong Kong, Turkey, Morocco, Germany, Sudan and Bangladesh attended the course, of which about 85% were research scholars/independent researchers, about 10% were faculty/scientists/postdoctoral fellows, while about 5% were practitioner.

One day workshop on "Use of New Materials in Rural Roads"

One-day webinar on "Use of New Materials in Rural Roads" was organised on January 08, 2021. It was conducted in the online mode as a part of activities mentioned under MoU with Madhya Pradesh Rural Roads Development Authority (MPRRDA). This webinar was conducted for the officers of MPRRA who are involved in the design, construction and maintenance of the roads in rural areas. MPRRA has already constructed around 1.25 lakh km of rural roads and the information provided to them is expected to be useful in their road projects.



The opening remarks were made by Prof. Rajat Rastogi, coordinator of the webinar. Welcome address was made by Prof. S K Ghosh, Head of Civil Engineering Department and introductory address was given by Mr. Shashank Mishra, CEO, MPRRDA, Bhopal. Concluding remarks were made by Mr. P K Nigam, Engineer-in-Chief, MPRRDA, Bhopal. Three lectures were delivered in the webinar. These are:

1. "Use of industrial waste Phosphogypsum for Soil Stabilization and Road Construction" by Prof. Akanksha Tyagi, Department of Civil Engineering, IIT Roorkee
2. 'Waste Plastic and SBS Polymer Modification of Bitumen' by Prof. Sham Ravindranath, Department of Polymer and Process Engineering, Saharanpur Campus, IIT Roorkee
3. 'New Materials for Rural Roads' by Prof. Praveen Kumar, Department of Civil Engineering, IIT Roorkee.

15-Days Road Safety Auditors Certification February 22 - March 8, 2021

IIT Roorkee in association with Ministry of Road Transport and Highways (MoRTH) and Indian Road Congress (IRC), organized a 15-days Certification Course for Road Safety Auditors as per the latest course content and guidelines prepared by MoRTH and IRC for fulfilling eligibility requirements of Road Safety Auditors. This course was in line with the latest guidelines prescribed by MoRTH and IRC and had an excellent opportunity for Engineers, Consultants, Practitioners, Researchers, etc., to enhance knowledge, skills and certify themselves in the domain of Road Safety Engineering and Auditing. The coordinator of this course was Prof. Indrajit Ghosh, Associate Professor, Civil Engineering Department, IIT Roorkee.

DEPARTMENTAL SAFETY COMMITTEE

The formation of a dedicated Safety Office shows the commitment of IIT Roorkee to provide safe, injury free working, and living environment in the campus. The centralized office requires inputs from various departments and centers to identify and mitigate safety issues. Therefore, the HCED appointed Dr. Saurabh Vijay as CED Safety Coordinator and approved a dedicated Safety Committee that comprises six faculty members of the department. Their role is to meet every month, identify and prioritize safety issues concerning the working environment of the department and find solutions in consultation with the Institute's Safety Office. Apart from these, several members of the department will be trained on safety related hazards and mitigations from time to time.

FORTHCOMING EVENTS

ATAL Faculty Development Program on Introduction to Geospatial Tools and Technology
July 26-30, 2021

The Civil Engineering Department, Indian Institute of Technology Roorkee is organizing ATAL faculty development program on "Introduction to Geospatial Tools and Technology" from July 26 to July 30, 2021. The objective of this program is to plan and help in imparting quality technical education in the country and to support technical institutions in fostering research, innovation and entrepreneurship through training in various emerging areas. The coordinator of this course is Prof. P. K. Garg, Professor, Department of Civil Engineering , IIT Roorkee.

Transportation Infrastructure Projects Conception to Execution (TIPCE)
September 14-17, 2022

The 2nd Conference on Transportation Infrastructure Projects Conception to Execution will be organized by Department of Civil Engineering, IIT Roorkee on September 14-17, 2022. This conference aims at bringing together the industry and academia involved in the transportation sector. The conference will emphasize on a two-way learning process i.e., from industry to academia and from academia to industry. Relatively higher importance will be given to case studies from the transportation sector, construction industries, consulting agencies and academia involved in such studies. The focus will remain to understand how transportation infrastructure projects have been conceptualized, designed and executed so as to bring the desired development in an area. The case studies from industry will present the bottlenecks experienced during the implementation of the project from its conceptualization stage to the execution stage and the corrective measures that were incorporated to achieve ultimate success. The case studies from academia will provide insights of the contributions made by them for the successful implementation of the projects on which consultation was sought by the Project Implementation Agencies (PIAs). Expected outcome of this conference will be the higher interaction between industry and academia in future. The Organizing Secretaries of this conference are Prof. Indrajit Ghosh & Prof. Amit Agarwal, Department of Civil Engineering, IIT Roorkee.

OBITUARY

The department expresses its sincere condolences to the family of the ex-faculty members who left for their heavenly abode, and prays that they attain salvation.

				
Prof. Ashok Srivastava January 16, 2021	**Prof. Narindra Puri** January 19, 2021	**Prof. Gopal Ranjan** April 5, 2021	**Prof. Bhawani Singh** May 4, 2021	**Prof. Arun K. Mathur** May 7, 2021

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