School Chairperson’s Message...

Greetings! It gives me immense pleasure to present the 7th issue of “TIDINGS”. This newsletter is one of the ways in which we disseminate information relating to the School of Engineering (SE) of IIT Mandi. I am sure that you will appreciate the progress that we have made in the last semester as you read this newsletter.

While we continue to peruse our academic and research activities to make our own mark in specific areas, we are also engaging in cross disciplinary activities to solve cutting edge problems. The students and faculties at SE have developed strong expertise in design, structure, materials, manufacturing, thermal and other important areas of Civil and Environmental engineering. The task before us is to put our expertise together and develop holistic systems to provide engineering solutions to societal and industrial problems. Some of our colleagues are already working towards making prototypes and I am hopeful that we are not far from achieving success in this direction.

With this note, I extend my sincere thanks to previous school chairperson, Dr. Rajeev Kumar for his dedicated contribution for shaping up the school to great extent. I also would like to thank all my faculty colleagues and staff for their tireless efforts to help the school grow at a very steady pace.

Dr. Viswanath Balakrishnan
Chairperson
School of Engineering, IIT Mandi, Mandi
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Recently commenced projects

Water and Energy Efficient Reliable Irrigation System (WaTER-ERIS): Solar energy and Cloud-based decision support systems for automated irrigation system
PI: Dr. Kasiviswanathan K S; Co-PIs: Dr. Subhambey Sen, Dr. Narasreddy Tummuru (School of Computing and Electrical Engineering, IIT Mandi); Sponsor: DST, IMPRINT; Budget: 94,12,800 INR; Duration: 2019-21

Impacts of Recent El-Niño Southern Oscillation (ENSO) on the Water-Food-Energy Nexus in India
Co-PI: Dr. Kasiviswanathan K S; Sponsor: Swedish Research Council - Sustainability and Resilience funding; Budget: 59,19,983 INR; Duration: 2019-21

Efficient removal of most penetrating particles (dia~300 nm) from air/ water using supersonically blown ultrafine PVDF nanofibers
PI: Dr. Sumit Sinha Ray ; Sponsor: SERB; Budget: 48,63,000 INR; Duration: 2018-21

SPARC grant on wastewater treatment
PI Dr. Gaurav Bhutani, Co-PIs: Prof. AjitAnnachhatre, Dr. AtulDhar from IIT Mandi; Pablo Brito-Parada and Stephen Neethling from Imperial College London. Budget: 47 lakhs

Treatment of acid mine drainage for heavy metal removal
PI Dr. Sumit Sinha Ray; Co-PI: Prof. A. Annachhatre; Sponsor: Ministry of Metals; Budget: 19,84,000 INR; Duration:2019

Developing a sensor based real time river flow monitoring framework for forecasting flash floods
PI: Dr. Kasiviswanathan K S; Sponsor: State Council for Science and Technology, HP; Budget: 5,50,000 INR; Duration: 2019-20

New courses

Geology and Geomorphology: The course aims at disseminating the basic concepts of geology, rock formation, rock types and geomorphological features. This course is being engaged by Prof. Ramesh P. Singh.

Structural Health Monitoring: The course deals with the condition monitoring of major infrastructure using stochastic systems to ensure safety and serviceability.

Analysis and Design for Earthquake Resistant Structures: This course provides insights into the design of buildings to withstand earthquake forces and related seismic safety issues.

Strut and Tie Models for Concrete Structures: This course offers the basic principles and application of STM to special concrete elements and regions of discontinuity in structures.
Most downloaded paper
Sanjay Singh Tomar, Sunny Zafar, David Hui, Wei Gao and Mohammad Talha, "State of the art of composite structures in non-deterministic framework: A review", Thin Walled Structures, 132, 2018, 700-716, was the most downloaded paper of the journal in Nov.'18.

Workshops
A training programme on "Landslide mitigation and rehabilitation"
Coordinator: Dr. K. V. Uday, Co-coordinator: Dr. D. P. Shukla
Duration: 12-14 Nov’18, Sponsor: NDMA
Participants: State government engineers and engineering students
Speakers: Prof. Vikas Thakur (NTU, Norway), Dr. K. V. Uday & Dr. D. P. Shukla

Earthquake Risk Mitigation - A Training program on Strengthening of Techno Legal Regime to Ensure Structural Safety
Coordinator: Dr. M. Cade, Co-coordinator: Dr. S. Saha
Duration: 21-23 Jan.’19, Sponsors: IIT Mandi and SERB
Participants: State government engineers and other practicing engineers
Speakers: Dr. M. Cade, Dr. S. Saha and Mr. S. Sharma (Retd. Town Planner)

NMHS workshop on Water Filtration Techniques based on Solar Energy
Coordinator: Dr. J. K. Randhawa, Dr. B. S. Rajpurohit
Duration: 11-13th Feb 2019. Sponsor: SERB + IIT Mandi
Participants: Students of IIT Mandi and other institutes
Speakers: Dr. Naranj Pindoria (IIT Ganhinagar), Dr. J. K. Randhawa, Dr. B. S. Rajpurohit (SCEE), Dr. S. Dasgupta (SHSS), and Dr. P. F. Siril (SBS)

Achievements made by students
Sharad Kumar Gupta and Muskan Jhunjhunwalla working with Dr. D. P. Shukla, received the Best Paper Award for oral presentation on, “Landslide Susceptibility Zonation (LSZ) using machine learning approach for DEM derived continuous dataset” in the International Conference on Recent trends in Image Processing & Pattern Recognition'18. Sharad Kumar Gupta along with Abhishek Bhadrawaj a B.Tech. student won the Carl-Zeiss award for image processing. The award included a cash prize of Rs 1 Lakh.

Priyanka Kajal a Ph.D. student working with Dr. Satvasheel Powar, received Best Oral Presentation Award for the paper, "Performance Analysis of Charge Transporting Layers in Perovskite Solar Cells With Varying Deposition Techniques" at III ISEES International Conference On Sustainable Energy and Environmental Challenges at IIT Roorkee in Dec.’18.

Pankaj Shitole working with Dr. R. Ghosh, received a Young Investigator Scholarship (250 USD) to present his paper, "Fracture toughness at the interface between cortical bone and cancellous Bone “ in the 31st Annual Congress of the International Society for Technology in Arthroplasty (ISTA) in London during 10-13 Oct.’18.


Yati Aggarwal, a Ph.D. student of the School won the Silver and Bronze medals in women’s shot-put discuss throw events in the 53rd Inter IIT sports meet held at IIT Guwahati in Dec.'18.

Ankit Gupta defended his PhD thesis on 15 Oct.’18. He has developed and implemented a nonpolynomial based higher-order shear and normal deformation theory to investigate the structural response of the FGM plates. He was working with Dr. Mohd. Talha.

Abhishek Vishwanath Bangunde under the guidance of Dr. Rajeev Kumar and Prof. S. C. Jain, submitted his MS thesis on, “Torsional vibration analysis and fatigue life estimation of turbo-generator coupled shaft system under electrical disturbances”.

Preeti Gulia, a Ph.D. student working with Dr. Arpan Gupta received an International Research and Education Student Grant from the Acoustical Society of America. This includes a certificate, three year membership and a grant of 1000 USD.

Ph.D. students, K. Hanumanthu, Sneha Das, PreetiGulia and Dikshita Nath received Teacher's Day Awards for their excellent contributions towards teaching assistantship.


M.S. student, M. Nikhil Mathew working with Dr. Atul Dhar, received the Best Poster Award for, “Exhaust Heat Recovery From a 4-Stroke Diesel Engine Using A Thermoelectric Generator Unit” in the III ISEES International Conference On Sustainable Energy and Environmental Challenges at IIT Roorkee in Dec.’18.

Call for papers
Coordinator: Dr. Sandip Saha, Website: http://iccms2019.iitmandi.ac.in

Coordinator: Dr. Rajeev Kumar, http://iitmandi.ac.in/iNaCOMM2019/

Upcoming event
International workshop on Climate Change and Extreme Events in the Himalayan Region (C2E2Himalaya), 18-20 April 2019.
Convener: Prof. Ramesh P. Singh, Coordinator: Dr. D. P. Shukla, Website: http://www.c2e2himalaya.iitmandi.ac.in/

He who climbs upon the highest mountains laughs at all tragedies, real or imaginary... Friedrich Nietzsche