

Chairperson's Message...

Greetings!! It gives me immense pleasure to present the 6th issue of "TIDINGS". This newsletter is one of the ways in which we disseminate just previous semester's information relating to the School of Engineering (SE) of IIT Mandi. SE is committed for high standard of engineering education through outstanding teaching, innovative curricula, and excellent research environment. SE is not only increasing intakes in existing programs but also starting new academic and research programs. I would like to share some achievements of last semester. A new M.Tech. program in Structural Engineering has been started. Construction Materials laboratory has been setup; Nano-fabrication facility has been established for energy materials research; the Sheet Metal shop of Mechanical workshop has been upgraded. An IMPRINT-2 project has also been awarded. I would like to thank all my colleagues for their tireless efforts to help the school grow at a very steady pace.

Dr. Rajeev Kumar

New program

M.Tech. in Structural Engineering (Dr. Rajneesh Sharma, Program Coordinator): The objective of this program is to support the country's need of trained engineers to build landmark infrastructure, as well as to motivate scholars to carry forward cutting-edge research. The core contents of the program are developed to encompass the essential elements of Structural Engineering, e.g. Solid Mechanics, Structural Dynamics, Finite Element Methods, Advanced Design etc. Whereas, the elective courses are planned to help students foster their research interest in areas like, Construction Materials, Earthquake Engineering, Structural Health Monitoring, Seismic Hazard Analysis etc. Moreover, strong industry connections are envisioned in the above-mentioned areas through research projects and internships to be taken up by the students.

New courses

- Simulation and modeling in water resources engg.
- Advanced design of structures
- Structural dynamics with application to earthquake engg.
- Solid mechanics in structural engg.
- Seismic hazard analysis

New lab

Construction Materials Laboratory (Dr. Kaustav Sarkar, Lab Coordinator): The lab houses several state of the art equipment for the characterization and quality control of construction materials.

Recent Patent

Gupta A. and Gulia P. (2018). Sonic Crystal for Noise Reduction in Hard Disk or High Performance Computing Cluster, Patent Application Number: 201811024261.

Cutting-Edge Research in Material Science (Faculty mentor: Dr. Rahul Vaish)

Recently, the group has discovered novel application of piezoelectric materials which has been highlighted in AIP Scilight (*Poled piezo plates kill bacteria resting on their surface*). In another work, an attempt has been made in the area of energy harvesting which brings new insights on the development of this technology for the efficient harvesting of thermal energy from waste heat

Workshops / Courses (since Mar'18)

A short term course on "Finite Element Method for Engineers and Researchers" (FEMER-2018) (18th-22nd June, 2018)

Organizers: Dr. Himanshu Pathak, Dr. Rajeev Kumar and Dr. Vishal Singh Chauhan

IIT Mandi Speakers: Dr. Himanshu Pathak, Dr. Kaustav Sarkar, Dr. Rajeev Kumar and Dr. Vishal Singh Chauhan

External Experts: Dr. Indra Vir Singh from IIT Roorkee

A Workshop on "Recent Developments in Earthquake Resistant Design" (2nd-6th July, 2018)

Organizers: Dr. Sandip Saha and Dr. Maheshreddy Gade.

IIT Mandi Speakers: Dr. Venkata Uday Kala, Dr. Kaustav Sarkar, Dr. Maheshreddy Gade and Dr. Sandip Saha

External Experts: Prof. Tushar Kanti Datta (FNAE), formerly emeritus professor at IIT Delhi, Dr. S. T. G. Raghukanth from IIT Madras and Dr. Koushik Roy from IIT Patna

Distinguished visitors

Prof. Ashok Gadgil (Civil and Environmental Engineering, UC Berkeley) visited IIT Mandi on 25th March 2018 and had interactive session with SE faculties

Dr. A. K. Sharma (IIT Roorkee) visited IIT Mandi to teach a one credit course on selected topics in surface engineering on 23rd April, 2018

Dr. Rohan Dutta (IIT Kharagpur) visited IIT Mandi on 24th April 2018 and interacted with the faculties of SE

Prof. Damaraju Phaneswararao (Retd. IIT Delhi) delivered a talk on "CARBON CAPTURE - Absorption / Desorption of carbon dioxide into/from water-modeling and parameter estimation and Energy saving in carbon capture process" on 25th April, 2018

Prof. Sunil R. Kale (IIT Delhi) was invited as judge in Design Practicum open house held on 19th May, 2018

Prof. I. V. Singh (IIT Roorkee) during his visit on 20th June, 2018 delivered a talk Finite Element Method, a short term course held at IIT Mandi

Prof. Z. Ahmed (IIT Roorkee) visited IIT Mandi to develop the Hydraulic Lab on 11th August, 2018

Publications (as per Scopus)

Till date: 651; Since Mar '18: 38

HOT Paper (as per Wiley): Koner R. R., Halder A., Devi B. (2018). A

Polycarboxyl-Decorated Fe^{III}-Based Xerogel-Derived Multifunctional Composite (Fe₃O₄/Fe/C) as an Efficient Electrode Material towards Oxygen Reduction Reaction and Supercapacitor Application. Chemistry A European Journal, Vol. 24, Pg. 6586-6594

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Faculty strength

Regular faculty: 28
Visiting professors: 1
Adjunct professors: 1
Distinguished Visiting
Professor: 1
Emeritus Professor: 1
Mentor Professors: 2

Student Strength

B.Tech.:
CE/ME: 109
159
M.Tech.:
CE/ME: 18/60
Ph.D./MS: 72/27
Female Students:
PG/UG: 21/21

Placements '18

Mahindra & Mahindra
Coal India
Tecumseh
HPCL
BPCL
CNH Industrial
Sentiss Pharma
Cognizant
TCS Research

New faculty

Prof. -Ing. Balthasar Novák (Adjunct Professor)



He is a renowned expert of bridge engineering and concrete structures. He is presently a Professor of Structural Engineering at ILEK, University of Stuttgart,

Germany

Prof. Ajit P. Annachhatre (Visiting Professor)



He was a Professor of Environmental Engineering and Management at Asian Institute of Technology, Bangkok, Thailand for 25 years. He also handled the

charge of Director - UNAIT, AIT-UN office His research interests include Environmental Biotechnology for water and waste water treatment, water quality and climate change



Achievements made by students

Mr. Sumeet Kumar Sharma, DST (INSPIRE) Ph.D. student under the supervision of Dr. Vishal, presented a paper in "Researchers' Forum on Smart materials and Systems" held at Institute of Smart Structures and Systems (ISSS), IISC Bangalore (27-28 March 2018). He was awarded the best presentation prize and 500 Euros sponsored by Springer

Mr. Ayush Trivedi, M. Tech student in Energy Engineering has received DAAD fellowship to pursue research work at KIT Germany during Sept. 2018 - March 2019. Jointly guided by Dr. Mohammad Talha and Dr. Viswanath

Mr. Hitesh, MS student under the supervision of Dr. Sandip Saha has attended 16th European Conference on Earthquake Engineering (16ECEE), Thessaloniki, Greece, during June 18 - 21, 2018, and presented a paper titled "Seismic Performance Evaluation of Elevated Liquid Storage Tanks"

Mr. Davinder Singh, Ph.D scholar under the supervision of Dr. Viswanath received best presentation award at the 5th International Conference on Material Science & Smart Materials (MSSM2018), 7-10 August 2018, held at the University of the West of Scotland (Paisley Campus)

Achievements & Outreach made by faculty

Dr. Gaurav Bhutani was invited as a speaker in the CFD Workshop at IIT Dharwad (11th-15th June)

Dr. Himanshu Pathak was invited as a speaker in the FEM workshop at VIT Vellore (17th-18th March) and also visited an Orthopedic Implant Manufacturing Industry Name "Auxien Pvt. Ltd" on 12th May 2018

Dr. Kasiviswanathan K. S. was invited to deliver a talk on "How to manage the extremely high flows in hydrologic design?" at Amrita University, Coimbatore on July 20th-21st, 2018

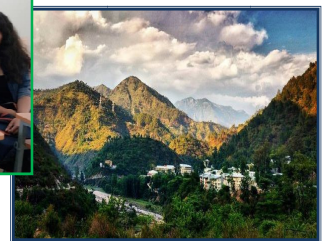
Dr. Jaspreet Kaur Randhawa was an invited speaker 19 World Congress on Material Science and Engineering, held during 11th-13th June 2018 at Barcelona, Spain

Dr. Mahammad Talha visited Universities in Bangladesh during 7th-12th April 2018, for possible research and teaching collaborations

Dr. Rajneesh Sharma visited IIT Delhi, SASE Chandigarh and Society for Technology Transfer and Development, Mandi

Dr. Sandip Saha served as Guest Faculty for Training of Trainers Program on "Strengthening of Techno Legal Regime to Ensure Structural Safety" organized by HPSDMA and HIPA, during 26th - 27th July 2018 at Shimla

Dr. Vishal S Chauhan visited, Prof. Michael Sinapius, Head of the Institute of Adaptronics and Functions Integration, Technical University of Braunschweig, Germany under the scheme Bilateral Exchange of Academics, through German Academic Exchange Service (DAAD)



Recently commenced projects

Centre for Design, Manufacturing and Testing of the System

PI: Dr. R. Kumar; Co PI: Dr. H. Pathak; Budget: INR 242 lakhs; Sponsor: DST; Duration: 5 years

Scalable manufacturing of asymmetric micro super capacitor for next generation energy storage devices

PI: Dr. Viswanath B.; Co PI: Dr. S. Powar; Budget: INR 68 lakhs; Sponsor: DST; Duration: 3 years

Development of decision support systems integrating parallel adaptive heuristic algorithms for large-scale multi-objective optimization problems for socio-economic and environmental planning

PI: Dr. M. Thakur (SBS); Co PI: Dr. Kasiviswanathan K. S.; Budget: INR 23 lakhs; Sponsor: DST; Duration: 2 years

Development of Low Cost Accelerated Water Purification Systems with Added Mineralisation for Himalayan Region

PI: Dr. J. K. Randhawa; Co PI: Dr. Bharat Singh (SCEE) & Samar Agnihotri (SCEE); INR 41 lakhs; Sponsor: NMHS; Duration: 3 years

Study of solute transport parameters through porous medium

PI: Dr. D. Swami; Co PI: Dr. D. P. Shukla; Budget: INR 45 lakhs; Sponsor: MOES; Duration: 3 years

Suitability of higher modeling approach in solute transport through porous medium

PI: Dr. D. Swami; Budget: INR 43 lakhs; Sponsor: DST SERB; Duration: 2 years