



SRM

INSTITUTE OF SCIENCE & TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)

Newsletter of Civil Engineering

Volume 1 | Issue 1 | Dec 2018



HARNESS

The Nature to the Benefit of Life on Earth



ABOUT THE DEPARTMENT

The Department of Civil Engineering is one of the oldest and well-established departments in SRM. The undergraduate program in Civil Engineering includes civil engineering subjects and also offers value education, foreign languages, industrial training, personality development courses, yoga, instrumentation, computers, management, economics etc., as part of the curriculum, which are essential requirements for any successful Civil Engineer. Students gain practical experience from field visits to industries, dams and irrigation structures, construction sites, etc. The department's range of postgraduate programs includes core courses as well as electives and independent study. Postgraduate programs are offered in Structural Engineering, Construction Engineering and Management, RS&GIS, Environmental Engineering, and Geotechnical Engineering. Students gain training in their field of study through summer internships. doctoral research areas that are being pursued include concrete technology, structural systems, concrete bridges, soil-structure interaction, modern construction materials, environmental studies and wetland management.

Well qualified and experienced faculty members form the department. They are specialized in structural, geotechnical, environmental, water resources, transportation, construction engineering and management, remote sensing and GIS. The faculty members contribute to academic development by publishing books and presenting papers in international and national conferences. The labs are well equipped with state of the art equipment.

B.Tech Civil Engineering programme at Kattankulathur Campus is accredited by Engineering Accreditation Commission (EAC) of ABET. (www.abet.org).

MESSAGE FROM HEAD OF THE DEPARTMENT



Dr. K. S. SATYANARAYANAN

Professor and Head / Civil / SRMIST

I am very happy in publishing the first issue of the Departmental newsletter “HARNESS” for the academic year 2018 – 19. This newsletter highlights various events, activities and symposium organized by the Civil Engineering department. It is great to find a considerable number of lectures and workshops helpful in sharing innovative ideas and knowledge. It is very important to equip the students with the new construction method, material and skills witnessed in the modern world of construction. The effective and enriched knowledge on modern tool usage is given for the students through technical session and webinars. The various events like technical session on STAAD Pro Connect Edition, Bentley Webinars and Symposium on BIM in Academia, etc., are few examples. The information on current job opportunities and recent research areas in Civil Engineering are shared through alumni meet. We will also extend additional mentorship and support to our current students through innovative technical sessions and seminars over the coming years. I thank all the faculty members and students for making this semester eventful in various aspects. I congratulate the team members in bringing this newsletter successfully.

ADVISORY COMMITTEE MEMBERS

Advisor

Dr. K.S. Satyanarayanan, Professor and Head

Committee Members (Faculty)

Dr. P. R. Kannan Rajkumar, Associate Professor

Ms. C.Sudha, Assistant Professor

Ms. T.M. Jeyashree, Assistant Professor

Mr. N. Ganapathy Ramasamy, Assistant Professor

Committee Members (Students)

Siddhartha Sarkar

Suraj Swaroop

Faizan Ahmad Wani

Anjani Sonali Soreng

Anurag Bhatheshwar

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FUNDED PROJECTS OBTAINED

Name of the Principal Investigator	Name of the Co-Co-Investigator (If any)	Total Project Cost (in lakhs)	Funding Agency	Period	Status of the Project (Ongoing/Completed)
Dr. S. Bhuvaneshwari	-	Rs.19.82	DST-SERB	2018-2021	Ongoing
Dr. A. Padma Rekha	-	Rs. 31.00	DST-SERB	2018-2021	Ongoing
Dr. J. Murali Krishnan (IITM)	Dr. A. Padma Rekha	Rs 23.24	DST-SERB	2018-2021	Ongoing
Dr. P. Shoba	-	Rs. 21.16	DST-SERB	2019-2022	Ongoing

Ph.D. AWARDED

1	Jayakkodi	Dr.R.Annadurai	28.05.2018	Assessment of Groundwater Quality and Evaluation of Untreated and Treated Sago Effluent in Rasipuram Taluk of Namakkal District Tamilnadu State India
2	Sachikanta Nanda	Dr.R.Annadurai	24.8.2018	Influence of Urbanization on Surface and Ground Water in Katt ankulathur Tamilnadu India A Geospatial Perspective
3	Kamal Kumar Barick	Dr.R.Annadurai	22.10.2018	Remote Sensing and GIS Based Analysis of Hazards along the Northern Coast of Odisha, India

PATENTS

S.No.	Year	Patent Number/ Copyright	Complete Specification Filed Date	Published Date	Inventors (Name of Faculty/Students)	Patents Title	Case Status (Filed/Published/Granted)
1	2017	201741017373	5/17/2017	8/17/2018	R.Ravi , Ramanan	LIME MORTAR COMPOSITION	Published
2	2018	201841024000	6/27/2018	06.07.2018	Dr.P.Shoba	A System and Method For Quantifying Vegetation Using A Dual Polarization Sar Vegetation Index (Dpsvi)	Published
3	2018	201841025190	7/5/2018	13.07.2018	Ms. Bhuvaneshwari	A CEMENTITIOUS COMPOSITION AND AN ARTICLE PREPARED THEREFROM	granted
4	2018	201841048785	12/22/2018	13.12.2019	S. PRADEEP, D FLORENCE MORE	CONCRETE STRUCTURES WITH STEEL FIBERS	Published
5	2017	201741043814	21.11.2018	07.06.2019	Kandaswamy Gunasekaran, Thangaraju Rajasekaran & Subramaniyan Srinivasa Senthil	Coconut Shell Crusher Device	Published

EVENTS & WORKSHOPS ORGANIZED

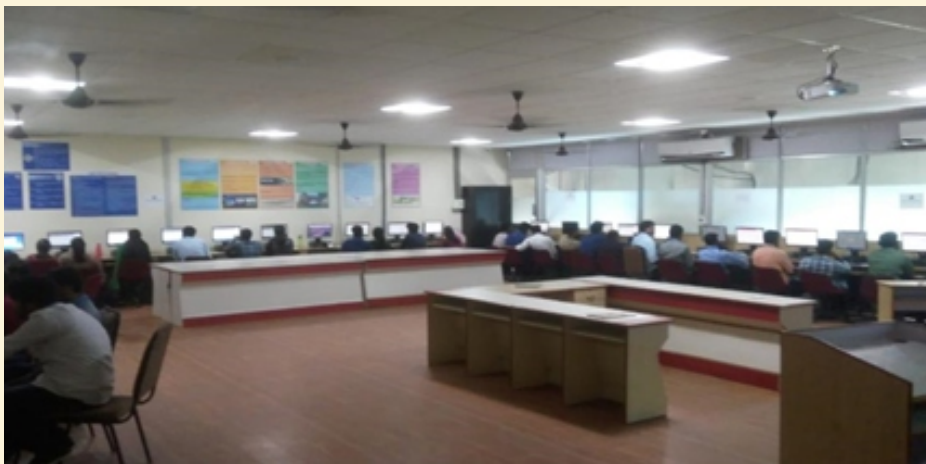
TECHNICAL SESSION ON STAAD PRO CONNECT EDITION

It was a three-day short term course arranged by the Bentley Institute. This session was conducted in the Bentley Institute powered laboratory at 1st floor of Structural Testing Lab on 21st August, 2018. This session mainly aimed to familiarize the students with the STAAD. Pro CONNECT Edition and teach its basic usage in application of loads and analysis of building. It was attended mostly by M.Tech. Structural Engineering students and few B.Tech. Civil Engineering students in the presence of our faculty head Mr. S. Pradeep (Assistant Professor Sr. G., SRMIST). The overall session was very effective and informative for the students.



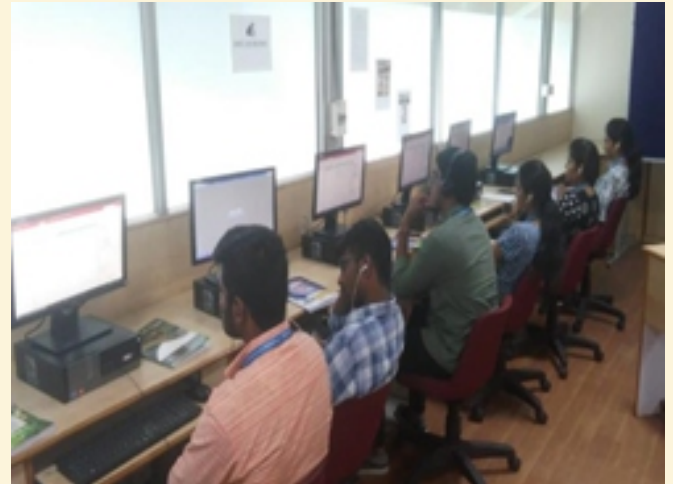
BENTLEY WEBINAR - 1

This session was conducted in the Bentley Institute Powered Laboratory. It was the first day of a Three days short term course arranged by the Bentley Institute. The session was conducted on 21st august 2018 for one hour and began at 3.00pm which continued till 4.00 pm. It was attended mostly by M.Tech. students and few B.Tech. Civil Engineering students in the presence of our faculty head Mr. S.Pradeep. Following topics were covered in this session Introduction to STAAD. Pro CONNECT; Edition. Assigning of Basic Load cases – Live load, Dead Load and wind load; Analysis of the Building. Next two sessions will cover the other topics like physical modelling; modelling of a warehouse, Seismic Analysis of structures, modelling and analysis of building etc



BENTLEY WEBINAR - 2

Bentley Institute Digital Advancement academy in Pune conducted live session on 28th August 2018 in order to familiarize the students with the key elements of an effective BIM strategy and workflow for coping up with the digital standards for infrastructure assets. Topics like Digital advancement in the Infrastructure Industries, Infrastructure Lifecycle Management :Going Digital, BIM Course for Academic Curriculum were presented by eminent professors and research persons from Bentley systems and IITs. All students had good live webinar sessions and provided with certification.



SYMPOSIUM ON BIM IN ACADEMIA AND INFRASTRUCTURE

This session was conducted in the CRC seminar hall at 1 st floor from 10 am on 28th August, 2018. It was hosted by Bentley Institute Technical Advancement academy in the state of Pune. The entire live session was shown through projector in the CRC seminar hall. The session was conducted for five hours and it was attended by students of both the Under Graduate as well as the Post Graduate program. Our faculty head Mr. S. Pradeep Kumar (Assistant Professor Sr. G., SRMIST) was present throughout the session to guide the students. The main aim was to familiarize the students with the key elements of an effective BIM strategy and workflow for copying up with the digital standards for infrastructure assets.



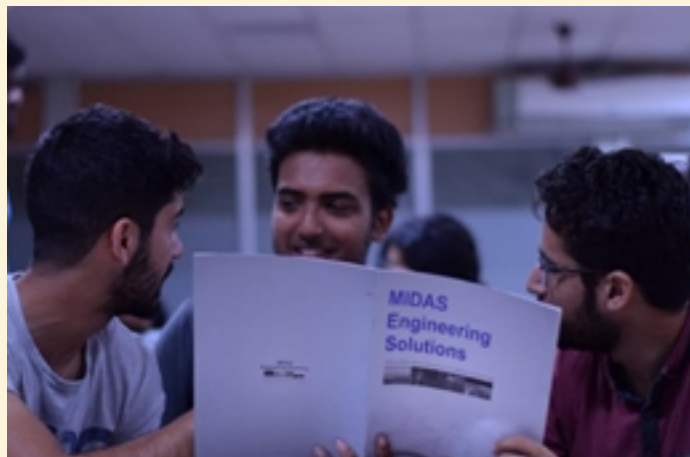
TECHNICAL TALK ON RESEARCH PAPER WRITING

It was an initiative to conduct a session on the strategies followed while writing research papers, for those students who are were just introduced to the field of research paper writing. The session was held on 15th September, 2018. It was presided over by Mr. S. Pradeep Kumar and was conducted by Mr. Gopinath (Assistant Professor, SRMIST) who has been working in the corresponding sector and further guided many students on writing of research papers. Students had an opportunity to know about the procedures to be followed in writing a research paper, internet sites and publication names were familiarized, ideas on citation and plagiarism check were introduced and an interactive session to clarify their doubts regarding the session.



TWO-DAY WORKSHOP ON ADVANCED STRUCTURAL ANALYSIS AND DESIGN – MIDAS GEN

A Two-Day Workshop On Advanced Structural Analysis And Design - MIDAS GEN was organized by the Department of Civil Engineering along with ASCE SRM Student chapter on 5 th and 6 th October, 2018. The technical support engineers from MIDAS IT, Ms. Deepesh Agarwal and Ms. Nivedita Khole conducted the training for the two days. There were participants from SRMIST and also from other universities. A brief introduction about MIDAS GEN was given by Ms. Deepesh Agarwal. The participants were taken to the computer lab for hands on training. The trainers then explained about the basic tools that are used in MIDAS GEN software. A handbook was also issued to the participants to help them in using the software. A project was taken up by the trainers to practically explain the working of the software. At the end of the workshop, a valedictory function was arranged with Mr. V. Thirumurugan (Associate Director Campus Life, SRMIST) as the chief guest to honour the trainers. Certificates were provided to the coordinators and the students who worked for the workshop.



ALUMNI MEET

Graduate alumni from SRM IST visited the campus and interacted with the students and informed them about the trends and options for their better career and how they can be eligible to pursue certain career options. The session was conducted on 27th October 2018. The alumni present were Sai Teja (BITS Hyderabad), Poornima (IIT Madras) and Nichiket (IIT Madras). They informed the students about what all work and projects they are doing currently and what the students can do and learn now to improve their career options in future. The various software which a Civil Engineer might find useful in his career and how a student can develop interest for research and what are the various trends one can do research in were discussed.



ALUMNI GUEST LECTURE

Alumni meet for the year 2018 was conducted and Graduate alumni Sai Sabarish from SRM IST visited the campus and interacted with the students and informed them about the trends and options for their better career and how they can be eligible to pursue certain career options. He also explained about the process to join in Indian navy in which he is currently working as a sub lieutenant.



MODEL MAKING COMPETITION

Model making contest was conducted on October 3rd 2018 at Basic Civil Engineering Laboratory. Students from Bio-technology participated in the contest which was guided by Mr. S. Pradeep in which students eagerly participated and showed their individual talents and creativity.



MODEL MAKING EXHIBITION

It was conducted on 9th November 2018 by the ASCE SRM students chapter under the guidance of Mr. S. Pradeep Kumar (Assistant Professor Sr. G., SRMIST). The first year Mtech students of structural engineering took part in it. The students formed a group of three or four and made around 8 models on different aspects like tuned mass dampers, base isolation, three storey model with a software to calculate the amplitude of the vibration and so on. We displayed the models made for the faculties and students to see.



WORKSHOPS

STRUCTURAL DESIGN OF RC BUILDINGS

The students of the structural engineering had undergone a practical training workshop in “STRUCTURAL DESIGN OF RC BUILDINGS” by Mr.G.A.Hariharanath, Chief Executive, 6 GA Consultants. The workshop was started on 06th July 2018 and ended by 12th August 2018 for a period of 12 days. The students were able to gain knowledge in analysis and design of RCC Structures which includes the load distribution of slabs to beams, design of slabs, beams, columns, footings and Raft foundations along with wind and seismic effect on structures.



SKILL DEVELOPMENT PROGRAMME FOR HEAD MASONS

One day "Skill development program for Head Masons" was conducted by the Department of Civil Engineering in Association with UltraTech Cement Ltd, Chennai on 18th September 2018. Dr. K. Gunasekaran, Professor, Coordinator of this program welcomed all the guests and participants. Dr. K. S. Satyanarayanan, Professor & Head, Convener of the program, briefed about the program to the gathering. He pointed out that the theme of the program was to provide and disseminate the knowledge and technology advancement in the field of Civil Engineering materials, the need of technology and the new techniques. The event partner, UltraTech introduced their new products and explained. Thirty Head Masons and forty Civil Engineering students were participated and were given with theoretical and practical trainings. At the end, valedictory function was conducted and the certificates were distributed to the participants. The programme came to an end with the vote of thanks proposed by Mr. S. Vijayakumar, Territory Technical Services Manager, UltraTech cement Ltd, Chennai.

GUEST LECTURE

A guest lecture on special concrete and its advantages was conducted on 3rd October, 2018. The keynote speaker and the chief guest of the event was Er.K.Pandian, Cluster Incharge, VAC & QC, TN & KL Cluster, UltraTech Chennai. The event witnessed participation of both B.tech and M.tech students. The event was followed by a Q&A session.



INDUSTRIAL VISITS

INDUSTRIAL VISIT TO FORD GTBC PROJECT AT ELCOT SEZ, CHENNAI

A Visit to Ford GTBC Project under L&T Construction on 26th June 2018. The site comprises of two Office building, Canteen building, Learning Development Centre with extended basement and podium for car parking covering up to 28 acres. Over 10 students from SRMIST was explained by the project manager with structural drawing, sectional drawing, design procedure, construction methods etc. Architectural and structural Design basic report, PT Configurations, specially designed Elevated Pipe rack system for floods were discussed.



INDUSTRIAL VISIT TO CSIR – SERC

A visit to CSIR – Structural Engineering Research Centre was arranged by the department of Civil Engineering for the students on 26th September, 2018. The 1st year students of the Post Graduate program were taken for the visit along with four faculties from the department. The students were taken to different laboratories in SERC and the respective heads of the laboratories taught about the major projects in the lab and about the equipment. This visit was to expose the students to a wide range of laboratory facilities available in CSIR-SERC.



INDUSTRIAL VISIT TO INTERARCH BUILDING PRODUCTS PVT. LTD

An industrial visit was organized to Interarch Building Products Pvt. Ltd. by Department of Civil Engineering on 9 th October, 2018. 1 st and 2 nd year students of Post Graduates program along with four faculties underwent the industrial visit. Interarch Building Products Pvt. Ltd. is an industry known for it's pre-engineering works. The students were taken to the laboratories where they work. The different stages involved in developing steel structures were explained to the students. The students were then given brief details about the working of the industry. The students also got to know about the advanced topics prevailing in steel structures such as pre-stressed steel structures, carbon steel and fire resistant steel



FIELD TRIP TO CHENNAI METRO

A field trip was conducted for B.tech final year students and M.tech students to underground Chennai metro construction. Students were taken to three sites namely Government Estate, Thousand Lights and LIC and they were explained about tunnel construction and difficulties faced in it.



INDUSTRIAL VISIT TO INDIRA GANDHI CENTRE FOR ATOMIC RESEARCH, KALPAKKAM

An Industrial visit to Indira Gandhi Centre for Atomic Research , Kalpakkam was organized by the Civil Engineering department of SRM Institute of Science and Technology on Friday, 10th August 2018,. M.Tech Environmental Engineering students (I st and II nd years) accompanied two faculties Mr. S.DHANASEKAR and Ms. V.MIRUNALINI visited IGCAR, Kalpakkam to interact with the scientists to understand the fast reactor science and technology and their effects on the environment. The Head of the BARC training school, IGCAR Campus, conducted a very informative introductory session for the students. Also she motivated the students to select their domain and area of interest. The team then observed the pictorial representation of the operations taking place in the fast breeder reactor. This session was followed by the control room visit. Dr. R. Mathiyarasu, Senior Scientist IGCAR – Radiology Safety Division, explained the students about the radiations that are emitted from the reactors. He also demonstrated the Environment, Health and safety precaution methods. The testing laboratory equipments were explained. Then the students were given knowledge about the artificial Earthquake Stimulator and their operation mechanisms.



INDUSTRIAL VISIT TO WATER TREATMENT PLANT, KALLANAI

The students of III year B.Tech Civil Engineering went for an industrial visit to the places which are located in southern part of Tamil Nadu. The duration of the visit was 4 days i.e. scheduled from 31st August to 3rd September, 2018. 91 of the students along with 7 faculty members took part in this visit. faculty members accompanied: Mr. S. Prakash Chander , Mr. R. Ramasubramani Mr. N. GanapathyRamasamy, Ms. M. Kamalanandini, Ms. V. Mirunalini, Mr. S. Cheziyan, Mr. A. Edwin.



INDUSTRIAL VISIT TO M/s NA RESIDENCY, THIRUVERKADU, CHENNAI

The students of M.tech structural engineering went for an industrial visit to M/S NA Residency Thiruverkadu. There the processes of reinforcement detailing, pile driving and concreting of pile caps was shown by the site engineer. The students were accompanied by faculty member: Dr. P.R. Kannan Rajkumar.



FACULTY DEVELOPMENT PROGRAMME

Our Department has conducted a three days FDP in Advanced Concepts in Construction Management (ACCM) during 28 – 30th November 2019.

The aim of the faculty development programmes was to promote campus-wide excellence in teaching which supports the professional development of new faculty members in their early careers and enhances student learning. To our UG and PG Students and all faculty members attended the same and get benefitted.

Speaker:

1. Prof. N. Raghavan, Earlier INAE Distinguished Visiting Professor, Department of civil engineering, IIT madras. He is the Director of Institute for Lean Construction Excellence (ILCE) in IITM.
2. Mr. Sivaram Athmakuri, Vice President-project management Institute Chennai Chapter. He gave a talk on the Project Management, PMI and PMI Chennai chapter.
3. Dr. V. Rajesh Kumar, Chief Engineering Manager, Geospatial technologies, L&T construction. He gave a talk on GIS applications in Construction Management.
4. Ms. B. Janani, Technical consultant, Infinity PMC Pvt Ltd. She presented on Digital Estimate in Building by using CostX.
5. Mr. P. Senthil Nathan, Team lead- BIM Architecture, One works BIM Technologies Pvt Ltd. He presented on AEC works with BIM Technologies.
6. Mr. Mohaideen Najumudeen, BIM Trainer, One works BIM Technologies Pvt Ltd. He presented on MEP works with BIM Technologies.
7. Mr. S. Madhu Anand, DGM&Head, Construction methods and planning centre, L&T Constructions. He presented on Construction methods for mass housing.
8. Dr. L. Krishnaraj, Assistant Professor, SRMIST. He presented on Thrust areas of research in construction management.
9. Dr. C. Velan, City head, Chennai Operations, Ascendas- Singbridge, Chennai. He presented on the alliance Contract methodology- a New Cultural shift in Construction Management.

Benefits:

The Faculty Development Program hosts group workshops and individual consultations for the faculty to develop and share their experiences and explore creative pedagogic methods and resources for different settings and outcomes of student learning.

STUDENT PROJECTS

CONCRETE BASEBALL BAT

Baseball bat made out of lightweight concrete by ASCE SRM project team. Research paper was published on this project and it is now out for patenting. This project was guided by Mr.S.Pradeep. The above mentioned team also participated in concrete baseball competition. The team performed very well and bagged 2nd prize.



CONCRETE SKATEBOARD

Skateboard out of concrete was made by Students from ASCE team, The skateboard was designed with the help of Solidworks and analysed with Ansys. After testing many concrete mixes the suitable and best mix was selected and the skateboard was cast.



AMPHIBIOUS STRUCTURE

Invention focuses on making the building to survive both land and water thus making it as an amphibious structure. During flood times, when the water level rises it tends to rise the structure due to its hull shaped base and light weight nature which is achieved by adopting Ferro-cement.



CONCRETE CANOE- NAAVAI

A project team from ASCE SRM Student chapter worked on a project “CONCRETE CANOE MAKING”. The canoe was tested in testing tank in campus. A team of 5 students worked hard for around 3 months and filed patent on the same. The software used for this project are Prolines and Bentley Maxsurf



SLOPE STABILIZATION AND SOIL EROSION PROTECTION BY NATURAL REINFORCING TECHNIQUE IN YERCAUD

In Yercaud, many areas are potentially endangered by soil erosion and landslides. The soil erosion will wash away the top shallow soil and results in loss of soil fertility whereas landslides are the threat for safety of local people and tourists. A Project Team of SRM Institute of Science and Technology have proposed the economical and eco-friendly protection technique for soil erosion and landslides based on the findings of their previous research. The proposed soil erosion and landslide protection technique is bio-reinforcing the soil by vegetative cover. In association with District Rural Development Agency of Salem, the project team have done the vegetation at the identified site in Yercaud Block Development Office Campus which parts are endangered by soil erosion and landslides.



SOCIAL ACTIVITIES PLANTATION DRIVE

This plantation drive was conducted on the occasion of Dr. A. P. J. Abdul Kalam Memorial Day. It took place around 4 pm in front of Sister Nivedita hostel at Annexure campus on 22nd July, 2018. The saplings were provided by the forest department situated near Santhoshpuram, Chennai. A total of 100 saplings were collected and planted. This Plantation drive was inaugurated by our Chief Guests, Dr. K. S. Satyanarayanan (Professor and Head of Civil Engineering, SRMIST) and Mr. V. Thirumurugan (Associate Director Campus Life, SRMIST), along with Mr. S. Pradeep Kumar (Assistant Professor Sr. G., SRMIST). Students from various department volunteered the drive and made it a successful event.



KERALA FUND COLLECTION PROGRAM

In the month of August, the state of Kerala was badly affected due to the recent floods caused by heavy rainfall. ASCE SRM Student Chapter along with the NSS team volunteered in the arrangement of funds and materials useful for the people of the state from all possible ways. Many students stepped forward to donate. Material Collection booths were arranged all over the campus. Donation campaigns were also arranged in and around the campus. Many volunteered in donating money as well as clothing for the needy. Water bottles were donated on behalf of Royal Inn canteen management. The collected materials were stacked and transported to the state of Kerala.



FIRE SAFETY AWARENESS CAMPAIGN

It was conducted by ASCE SRM students chapter on 22nd of March 2018. The guests of the hour was Er. Manavalan assistant engineer, Fire safety SRMIST, Mr. Subbaiah supervisor, Mr. G. Bala Murugan. Mock drill programme was conducted for students and they explained on what to do during a fire accident. Students were also taught on what to do during the event of fire.

