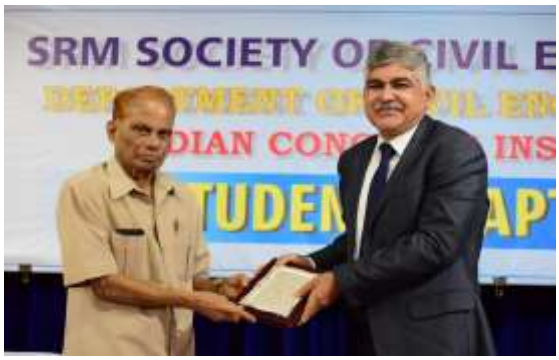
SRM SOCIETY OF CIVIL ENGINEERS
SRM-ICI STUDENTS CHAPTER

ACTIVITIES DURING THE ACADEMIC YEAR 2016-2017

1. Inaugural Function and Guest Lecture, 29th July, 2016

The inaugural function of the SRM Society of Civil Engineers for the new academic year of 2016-17 was held on the 29th of July 2016. The function was presided by esteemed Vice Chancellor Dr. T.P Ganesan, Honourable Head of Department, Civil Engineering Dr. K.S.Satyanarayanan and Chief Guest Shri. P. K .Mishra Sir (AGM, Southern Railway). The inaugural was initiated with a welcome address by Sai Sabarish M, Secretary, SRM Society of Civil Engineers, and was followed by lighting of the lamp. Dr. T.P Ganesan gave his presidential address which was followed by introduction to chief guest by K.S.Satyanarayanan. The Chief guest went on to present his explanation and current understanding on the scope and future of civil engineering through a detailed and informative presentation. He discussed the GDP growth of India which is about 7-8%. He also shared that the government is being investing more in infrastructure and he foreseen that it will be issuing 8.56 crore in the near future of which 70% will be for the construction purpose. He has also given the details of a new project of interlinking the river has been proposed in order to avoid drought and about the plan to construct fourth reservoir which is in the process. He further spoke about several exams conducted by UPSC board which includes Railway, CPWD, CWC, Border Road Service, MES, etc. GATE scores are also taken for few private sector recruitments.

Followed by which he has shared his life experiences. He was born in Madhya Pradesh and he did his UG from NIT Bhopal. His first posting was in Chennai and later was transferred to Assam. He suggested many useful books to the gathering such as “You can Win” by Shiv Khera; “Success v/s Joy” by Geet Sethi; “Professional” by Subroto Bagchi; “Think and Grow Rich” by Napoleon Hill; “As a man thinketh” by James Allen, etc. “Secret of Success is consistency of purpose” his favorite quote by Benjamin Franklin. A positive attitude is to be maintained for a good future. After his valuable speech was over it was followed by the interactive session. It was followed by presentation of the memento to the chief guest by our esteemed vice chancellor Dr. T.P Ganesan. The first function of the SRM Society of Civil Engineers for the new academic year came to a close with a vote of thanks by student secretary Namrata Singh Solanki, who expressed her sincere gratitude to the chief guest.



2. A fire mock drill on 19th August 2016.

The fire safety department, Estate office of SRM University conducted a mock drill on 19th August 2016. The fire alarm rang and all the students in the CRC block moved down and assembled in ground in front of CRC block. Members of the fire safety department explained the preventive measures and the initiative steps that have to be taken during the breakout of fire. They also explained the different types of extinguishers which are to be used under different circumstances. The fire safety officer demonstrated the use of fire extinguisher by putting out of the fire. Several students came forth to put out the fire. Several students came to put out the fire by themselves. This drill came to an end by creating an awareness and responsibility among the students.

3. Guest Lecture on the topic, "Prestressed Concrete Slabs and Beams", 19th August 2016.

A guest lecture on the topic, "Prestresed concrete slabs and beams" by Mr.Kamalakannan, Executive Director, Ultracon Structural Systems, Chennai was organized on 19th August 2016. He has shared his knowledge and experience in the field of pre-tensioning and post- tensioning of slabs and beams.

4. **An interactive session with Mr.Hariprasad Karnam, COO, IP Dome Strategy Advisors, Pvt, Ltd., on the topic, "Patent Filing", 23rd August 2016.**

An interactive session by Mr.Hariprasad Karnam, COO, IP Dome Strategy Advisors Pvt. Ltd was held on 23rd August 2016. He focused on what, why and importance of intellectual property. He then briefed about his profile. To make the listeners understand the concept of IP he brought out beautiful examples, like the Shanghai Urban Development Corporation that has taken the metro project and Colgate promotion. Intellectual property (IP) plays a major role to build economy in various nations across the globe. The speaker shared many views, in which he said how it's essential for an effective management to know its IP. Moving deep into the subject, he added the basic problem in addressing an issue. The general question that can arise for any common man is "Can I patent my copyrighted trademark". Overview of the Economy of various nations were done to show the lack of Indians during the course of time in understanding the importance of IP compared to various developed nations. Understanding IP protection strategy involves the basic understanding of the terms that follows. Patents, copy rights, trade, registered design, new invention, original creative forms, distinctive identification, external appearance, application and examination. Patenting involves three major obstacles to overcome. Scope of an individual's IP, having just one patent in profile may not win any battle. Thus the speaker expressed all his views and suggested ideas for the students and staff in the gathering to stream the ideas into a line and put efforts till the end without the track being lost. The hall was left for questions. After the discussion the Head of the department promised to soon patent a work of a staff and encouraged others. The meeting got over with a note of thank you.

5. Intra Department Lecture on the topic, "Research Scope in Environmental Science and Technology", 24th August 2016.

Intra Department Lecture on the topic, "Research Scope in Environmental Science and Technology" by Dr.Paromita Chakraborty was organized on 24th August 2016.

6. Workshop on 3-D Printing on 26th August 2016.

The Workshop on 3-D Printing was organized on 26th August 2016 in the presence of the chief guests Mr.Krish Sethia, Director (Structural Research Engineer), Bentley, Mr.Anurag Karve, Academic Relations Manager, Bentley, Mr. Rajesh & Mr.P.Rajasekar, Bentley. Mr.P.Rajasekar gave a briefing about 3D printers. He suggested that "Ideas will exactly replicate in the field". He discussed the importance of 3D printing in Civil Engineering. He shared his experience in designing compact vehicle and about 3D printers it is used to design in AutoCad and is used for additive and subtractive manufacturing. Doubts and queries related to 3D printers were cleared by the speaker and HOD presented his views on 3D printers. The seminar got over with presenting of the momento to the guest by the HOD.

7. Guest Lecture on Planning and Construction of Pre-Stressed Slabs, 30th August 2016.

A Guest lecture was organized by the Department of Civil Engineering to make M.Tech students better understand the Planning and Construction of Pre-Stressed Slabs with a well known resource person Mr.Kamalakannan, Executive Director, Ultracon Structural System Adayar, Chennai. The morning session was awaited by the students who assembled in Conference Hall, Structural Engineering Lab. The session was a great vision to students and as it was very interactive, as the students gained more knowledge and lived the experience of the guest as he shared many.

8. A Guest Lecture by Dr.V.Aneetha, on the topic, "Relocation of Utilities", 31st August 2016.

A Guest Lecture by Dr.V.Aneetha was organized by SRMSCE on the topic, "Relocation of Utilities" on 31st August 2016. The afternoon lecture began by welcome speech by the Head of the department. He invited the speaker who has done her research on Reallocation of Utility. He gave a brief note about Dr.V.Aneetha, who has done Phd in Construction management and who had

been a Planning engineer in Airport project, Kathar. This topic is a unique field of research and less research has been done in India. The speaker soon began her lecture showing the students how important are reallocation of underground and above ground utilities. The presentation beautifully brought out the simple examples of reallocating utility in various countries. She told the importance of coordination between the various inter-organizations involved in road and bridge construction. Two preconstruction activity delays in huge projects are reallocation of utility and less knowledge about the underground utility. She shared her personal experience and her work in 11 major projects. Her research has dealt with both urban and rural projects, with 7 urban projects and 4 rural works. Lack of research and case study was the problem that she faced during her research. She showed examples of electric poles not removed even after the extension of roads. Thus she made a point that both quantitative and qualitative study that has been done. She completed her session by giving the students the overall view of the presentation. The hall was left for questions and the speaker answered them in detail. Head of the department thanked the speaker for her efforts to make the students understand a major issue and thanked the students for patiently listening.

9. Visit to NATWEST VIVAS project Site, 7th September, 2016.

The students of M.Tech CEM were taken on a site visit under the supervision of Mr. P. Jaganathan (Educational Consultant), Department of Civil Engineering on 7th September, 2016 to Sengundram, Singaperumal Koil where roof shuttering works, column shuttering and concreting of columns works were in process. Exposure was given to departments like, Execution, Planning

and Safety department at the site. Both the sight of theoretical reasoning as well as practical execution had been acquired by the students.

10. A Guest lecture on the topic, "Holistic Approach for Concrete Design", 8th September, 2016.

A guest lecture was coordinated by SRM Society of Civil Engineers (SRMSCE) on the topic, "Holistic Approach for Concrete Design" on 8th September 2016 at SRM University. The lecture was graced by the presence of Prof. P.A. Muhammed Basheer, Chair in Structural Engineering, Head of School of civil Engineering, University of Leeds, United Kingdom along with Dr. K.S. Sathyanarayanan, Head of Department, Department of Civil Engineering, SRM University and other faculty members of the Department of Civil Engineering. A welcome address and a brief introduction was given by Dr. K.S. Sathyanarayanan which highlighted the achievements and honors received by speaker, Prof. P.A. Muhammed Basheer. In addition, a brief introduction about the Department of Civil Engineering and its focus in research at SRM University was given. After the brief introduction of the speaker, the dice was handed over to Professor P.A. Muhammed Basheer who has been an educationalist and researcher in the field of civil (structural) engineering for more than 30 years. He has been a lecturer on analysis, design and durability of concrete structures at UG and PG levels and his research interests are primarily on the Science, Technology and Performance of Structural Materials, including non-destructive evaluation and structural health monitoring. The speaker kick started the lecture with the help of interactive slides on the topic "Novel Non Destructive Test Methods and Sensor Techniques for Assessing the Durability and Service life of Concrete Structures". He discussed the crux of his research from 1983 which includes structural performance of structures, material performance, in-situ tests, methods to improve durability of various types of structures, sensors for assessing

risks and performance of microstructures. Firstly, the speaker asked all the academics in the room to develop an holistic approach to performance of concrete structures while developing concrete durable structures and stressed upon the the types of transport mechanics of external factors which can lead to deterioration of concrete. Professor P.A. Muhammed Basheer insisted upon the monitoring of in-situ tests and the use of sensors for assessing and predicting the service life of structures and skimmed through the collaborative research upon the sensors viz. Electrical Resistance & Corrosion Sensors and Fiber Optic Sensors which included the parameters for their operation. Lastly, he spoke about the two spinoff products, Autoclam and Diffusion released by him at the University of Leeds, United Kingdom and a concise information of activities taken up by the School of Civil Engineering, University of Leeds, United Kingdom. The floor was opened for questions where in the students and professors clarified their doubts related to the methods of testing developed by Professor P.A. Muhammed Basheer.

11. A Guest lecture on the topic, "Design For Buckling In Steel Structures", 9th September, 2016.

Dr.N.E.Shanmugam Formerly with National University of Singapore, National University of Malaysia has inaugurated the PG Association for the academic year 2016-17 on 9th September 2016. He has presented the failure of structures due to engineer's lack of supervision. However, the presentation overview is for the design for buckling of steel structures. He emphasised the primary aim of the structural calculations is to produce safe and strong structures. The buckling is classified as overall buckling, local buckling, interactive buckling and shell buckling. The moment rotation curves for different types of cross sections with

a neat sketch have been discussed. The step to step procedure for the design of plate girder flange and web has been discussed focussing towards the laterally unsupported sections. The session was ended with brief discussions by the students.

12. A technical presentation on Stability and Collapse prediction of Steel skeletal systems, 12th September 2016.

A technical presentation was organized on remote sensing research topics with case studies and future research work by Mr. Raghavan R, IITM on 12th September 2016. The Speaker gave a brief speech in his research. His Present Area of Research was on "Stability and Collapse Prediction of Steel Skeletal Systems" and "Analytical Models for Member Non-Linearity and non-structural Non linearity". He Consequently Proposed that his aligned future areas of research would be "Deformation models for general connector nodes", "Non-linear analysis of guyed tower", "Parametric studies on stabilities of skeletal systems".

Moving deep into his Research Topic he explained to the Audience the benefits of his research followed by his motivation behind the research: Collapse of Non-Linear structure – Hartford Coliseum (1979), CW post Auditorium (1978), FC twente stadium Hall, Reticulated steel in Non-linearity. He then went on to state the Problem of study in his present work followed by the Methodology of his research which involved Geometric non-linear formation and polar decomposition theory. The output of his research was computerized for analysis of steel skeletal systems resulting to inelasticity models, member buckling and connector node.

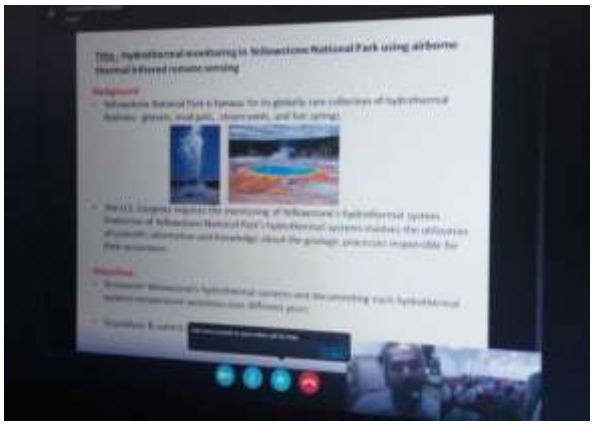
Applications of his research in Petroleum storage tank roof HPCT (Rajamundry), Stadiums and 220 kV DA type tower (L&T power testing & distribution) was explained elaborately by him. He then concluded by proposing the need to include total analysis of system, member, connection levels, non-linearity along with structural strength, stiffness and stability in structures. Thus the speaker expressed all his views and concluded with a brief explanation of his future research topics and a short suggestion of topics with research potentials. The seminar then took over to an interactive form when the hall was left for questions. Hence the Seminar ended with an interesting discussion.

13. A technical presentation on remote sensing research topics with case studies and future research works, 12th September, 2016.

A Skype call was made to Dr. S. Saravanan, Post doctoral research Associate, North Dakota and projected over the screen to organize a virtual seminar. The HOD of Civil Dept. gave a warm welcome and thanked the speaker for his valuable time and effort. The Speaker started with a brief introduction about himself and the research he was involved in – "Hydrothermal monitoring in Yellowstone national park using air borne thermal infrared remote sensing". The speaker then described to the audience about the Multi Spectral system of Utah state university equipped in a manned aircraft

designed for three passengers. He stated that it has three codec mega plus digital cameras and explained the types and its functions along with photographs. He further moved onto explain about image acquisition quoting that the device employed has a pixel resolution of 1 meter, 30 fps with the flight line having an head on overlap of 80% and side overlap of 30 % at height of 12000ft to 13000ft.Consequently, he explained the details regarding the processing of images and covered, Individual spectral band image, Geo Rectification, Image Strips Calibration correction which will lead to the formation of the mosaic. The obtained three band spectral mosaic is then uses for analysis, for example, comparison of measured and radioactive temperature.

The Speaker then moved on to his next research topic " Estimating Yield and Water Requirements of Potato crop using aerial and satellite remote sensing ". Initially He gave a brief difference between aerial and satellite monitoring and explained its advantages and disadvantages. Then he explained about the significance of the study- Agricultural Decisions, Yield and soil variability, and marketing strategy. The Data inputs required for the research are airborne remote sensing, satellite imagery, Yield data, and weather data. Image processing had been done by LandSat TMS which was substantiated with images taken. The Speaker then urged the audience to take researches to companies, decision makers and producers so that researches prove a good benefit to the people. Followed by which he suggested some potential research topics – Estimation of Crop Water, Thermal Image mapping, Urban heat island assessment and briefed about the methodologies to take up the mentioned research topics. Followed by this there were a few questions from the audience for which the speaker answered and suggested various tips to student researchers.



14. Workshop on Awareness on Environmental Sustainability, 20th September 2016.

Workshop on “Awareness on Environmental Sustainability” was organized on 20th September, 2016. After quick registrations, the workshop started with the lamp lightening ceremony as a tribute to goddess Saraswathi, God of knowledge. Following it we had the inaugural speech by chief guest Dr.J.Daniel Chellapa, senior Scientist (TCW), Bhaba Atomic Research Centre (BARC), Government of India. He attracted the gathering with two innovative videos and his lecture on the insight to environmental sustainability. Following that inaugural we had professor from Department of Aerospace Engineering Dr.L.R.Ganapathy Subramanian, sharing his views about ozone layer depletion. He briefed about causes, formation, effects of ozone layer and ill effects in depletion. The session was soon taken by Dr.Paromita Chakraboty who inspired all the young minds that no limits can be set in bringing up a change. She focused on "Electronic waste recycling" and the plight of Indian labors who get affected the most at low profit. Her talk was informative and brought hope among the audience to set a new trend.

The second half of the workshop had something more interesting for participants. As they were taken to the environmental engineering lab, Ms.Sija Arun and Mr.S.Ramesh, faculties of civil engineering department showed us the instruments equipped to test water and to study its characteristics. They demonstrated the experiment using water quality analyzer. On sight procedure to test water samples was explained. Following the lab session Dr.B.Nappolian, professor, Research institute, SRMU, presented his session on "impacts of textile dyes, arsenic and chromium on environment". His presentation showed how he was emotionally attached to the topic and he brought the responsibility that every human should have towards environment. Finally we had the valedictory function with guest of honor Dr.S.R.Ramanan, Director, Regional cyclone Warning center, Chennai. His presence has excited the people in the hall. His speech on cyclone and its threats made everyone scroll back their memories to the thane cyclone due to which Chennai suffered floods. The workshop came to an end, but the message is will be carried out and it is not going end in listening till it is set into action to sustain environment.

15. A Guest lecture by Er.L.BALAJI, Registered valuer on 21st September 2016.

A Guest lecture by Er.L.BALAJI was organized on 21st September 2016. The Head of the Department Dr. K.S. Sathyanarayanan gave a short and brief profile of Mr.L.Balaji. Later the guest was given a warm welcome by presenting a momento by the Head of the department. Soon the interactive session by the guest began by first surfing various ideas on what is valuation and why is valuation so important in this fast developing world. He dealt with ideas of what kinds of lands require valuation and kinds of values. He listed certain examples like land and building, plant and machinery, jewellery etc. that can be valued. He briefed about the terms in a way it can easily be registered in all students.

He soon moved on to the next topic on factors affecting the value of a property and various methods involved in valuation. He dealt on various methods namely Land and Building method, Rental or capitalization method, Development method, profit method, composite rate method. He told the importance of law that plays a major role in valuation. To make students understand better he shared his personal experiences. He soon focused on land evaluation which is of course important aspect to be dealt by every civil engineer. He categorized the types of lands and the way they have to be valued.

He showed slides to bring out the difference between present value, market value, forced value and auction value. He finished his lecture by guiding the students to join various universities proving courses to take up valuation as profession and he suggested some books for reference. Dr.Gunasekaran, senior faculty of civil engineering department thanked the audience and the guest for his interactive session.

16. A Visit to SERC, 28th September, 2016.

The students of B.Tech and M.Tech Structural Engineering were taken to the PLATINUM JUBILEE FOUNDATION DAY (OPEN DAY) OF STRUCTURAL ENGINEERING RESEARCH CENTER (SERC) on 28th September, 2016, under the supervision of the faculties of Department of Civil Engineering. The Faculty members Dr.S.SenthilSelvan, Mr.G.Vimalandan, Mr.P.Shriram, Ms.S.Sivakamasundari, Ms.Sudha.C, Ms.Pavithra.C, Ms.Karthiga.S, Mr.Sabarigirivasan.L, Mr.E.Balaji, Ms.C.Krishnaveni along with 250 students left for visit. The main objective behind the visit was to make student aware about how various activities related to Research and Development efforts at CSIR-SERC deal with development of improved analysis, design and construction techniques for different types of complex structures such as shell roofs, transmission line and microwave towers and other tower-like structures, ships, offshore structures and machine foundations. The Faculty members along with 250 students left for visit. The exposure to the laboratories and techniques that are available in CSIR – SERC was given to the faculties and students.

17. Site Visit to Madras Atomic Power Station (MAPS), Kalpakkam, 29th September2016.

The Department of Civil Engineering organised a site visit to Madras Atomic Power Station (MAPS),Kalpakkam for Mtech students(20 students) along with Mr.J.S.Sudarsan and Mr.K.Prasanna, Associate Professors of SRM University. Nuclear Power Corporation of India Limited (NPCIL) is a Public Sector Enterprise under the administrative control of the Department of Atomic Energy (DAE),Government of India. The Company was registered as a Public Limited Company under the Companies Act, 1956 in September 1987 with the objectives of operating atomic power plants and implementing atomic power projects for generation of electricity in pursuance of the schemes and programmes of the Government of India underthe Atomic Energy Act, 1962. Madras Atomic Power Station (MAPS) located at Kalpakkam about 80 kilometres (50 mi) south of Chennai, India, is a comprehensive nuclear power production, fuel reprocessing, and waste treatment facility that

includes plutonium fuel fabrication for fast breeder reactors (FBRs). It is also India's first fully indigenously constructed nuclear power station, with two units each generating 220 MW of electricity. Thus the students learnt the workin of power reactors and importance of such mega projects through this site visit.

18. Guest lecture and Interaction by Mr.S.ChristyRayan (Alumini -1991 Batch),9th October 2016.

An interactive session with one of the alumini ,Mr.S.ChristyRayan (Alumini -1991 Batch) was organized by Alumini-Placement-Industry- Training Department of Civil Engineering ,Faculty of Engineering & Technology. The session began with the welcome address by head of the department Mr.K.Sathyanarayanan. Following a brief and interesting profile, the guest for the hour started to interact with the students. The session was more interesting as he was one among the students and was able to study the young minds easily. He shared his memories of his college days and how has it molded him to reach his goals. His talk was thought provoking. He insisted that every day we should have a plan to work out. If you fail to plan, then we are planning to fail. He suggested ideas to face the corporate sector, for which one should improve his/her Perception, Performance and Potential. He shared his own experience to make our minds to set goals and go that extra mile to take what we want. He talked about good habits that have to be developed; good hobbies that we should work on to achieve success. As we had many students in the crowd sitting for their placements, he said the first 30 seconds of the interview is enough to sell ourselves and our skills. The next ten minutes of the interview is to prove that the 30 seconds judgment was right. Finally he wished all the students a best of luck to reach great heights. The head of the department thanked and presented a momento to the chief guest.

19. Site Visit to NATWEST VIVAS PROJECT,16th October,2016

Natwest is one of the committed builders in Chennai. It is designed to provide total solutions for all real estate needs under a single roof. They have been in real-estate market for over 30 years, not only guide the customers to take right decision on investment in real estate, but also provide the customers more value for their investments along with Mr.P.Jaganathan, 30 students from M.Tech,I

year Construction Management and Engineering students accompanied for the site visit. The industrial visit was a good learning experience in NatwestPvt. Ltd. Project at Sengundram, SingaperumalKoil. A lot of insight regarding almost every aspect of site had been gained. Exposure was given to departments like, Execution, Planning and Safety department at the site. Both the sight of theoretical reasoning as well as practical execution had been acquired. Overall, it was a fruitful learning experience and a great opportunity.

20. Guest Lecture on "Statistical Approach for Civil Engineers", 11th November 2016

Students were invited for a guest lecture on "Statistical Approach for Civil Engineers" apart from their regular classes. The Guest for the hour was Prof. M. Bagawandas, Professor, SRM School of Public Health, SRM University. He dealt with various aspects and life of Civil Engineers with valid statistical data. The slides that he shared and his experience was thought provoking and interesting. The interactive session was followed by presenting a momento to the chief guest.

21. Guest Lecture on ABAQUS FEA, 12th,18th and 19th January 2017

A Guest lecture was organized by the Department of Civil Engineering on ABAQUS FEA, which is one of most widely used finite element tool in academia and research. It has an integrated CAE module for 3D modeling along with static and dynamic solver and post processing capabilities. The training had the instructor Dr.Ghanshyam Pal, Associate Professor , Department of Civil Engineering, SRM University, Kattankulathur Campus and Guest instructors Mr.Ranjith K, Mr.Garigipati, Senior Application Engineer,ESTECO(India),Pune. Practice sessions, modelling of problems involving different types of contacts were undertaken by the participants and the session was a great exposure to them.

22. Site Visit to National Institute of Teachers Training and Research, 25th January, 2017

The students of SRM University along with foreign delegates, Kuwait visited the National Institute of Teachers Training and Research, Tharamani, Chennai**.** They were accompanied by Mr.Dhanasekaran and Mr.JustusReymond, Assistant Professor, Department of Civil Engineering. The professor Dr. Sumidhranath Panda from IIT Kharagpur, Director of NITTR gave a lecture on ground water monitoring techniques. He interacted with the students and the delegates about sustainable ground water management in semi-arid regions of India, especially Hariyana, where the ground water is saline and salty in nature. He also discussed current problem on pumping tube wells among the farmers where the ground water table suddenly drops down. It was further discussed on the government schemes towards irrigation and allowance for farmers like providing

free electricity for certain period of time. The application of high dose of pesticides and inorganic fertilizer which contaminated the soil as well as the ground water, affects the entire food chain which leads to deadly disease. This was a great chance for students to visit the Training institute and see the functionary authorities.

23. Site Visit to Water Treatment Plant at Puzhal , 30th January, 2017

The students of I year and Final year M.Tech Environmental Engineering, along with students of Society of Civil Engineering visited the Puzhal Water Treatment Plant at Redhills, Thiruvallur district. It is one of the two rain-fed reservoirs from where water is drawn for supply to Chennai City, the other one being the Chembarambakkam Lake and Porur Lake. They were accompanied by Mr.S.Ramesh, Assistant Professor and Ms.V.P.Golda Percy, Assistant Professor, Department of Civil Engineering. The full capacity of the lake is 3,300 million ft^3 (93 million m^3). The students were guided by a technical assistant and were shown the origin of water for treatment, the clarifierswhich are the settling tanks built with mechanical means for continuous removal of solids being deposited by sedimentation. They were explained in detail about the chemicals being added and the entire process of treating the water using filtration beds and the sludge being treated to obtain sludge cakes which are essential for agriculture. The plant contains 5 clarifiers and 24

filtration beds controlled by programmable logical circuit and control desk. It was a great opportunity provided for students.

24. Site visit to Ground Water Board,1st February 2017

The Department of Civil Engineering organised a site visit to Ground Water Board for Mtech students(20 students) along with Mr.J.S.Sudarsan and Dr.DeepthaThattai,Associate Professors of SRM University.Major activities being taken up by Central Ground Water Board include macro/micro-level ground water management studies, exploratory drilling programme, monitoring of ground water levels and water quality through a network of ground water observation wells comprising both large diameter open wells and purpose-built bore/tube wells (piezometers), implementation of demonstrative schemes for artificial recharge and rainwater harvesting for recharge augmentation. Periodic assessment of replenishable ground water resources of the country is carried out by the Board jointly with the concerned State Government agencies.

Geophysical studies, remote sensing & GIS studies and ground water modeling studies are taken up to supplement these activities. The Board also takes up special studies on various aspects of ground water sector such as ground water depletion, sea water ingress, ground water contamination, conjunctive use of surface & ground water, water balance etc. It also organizes various capacity building activities for personnel of its own as well as Central/State Government

organizations engaged in various activities in ground water sector as well as mass awareness campaigns on the importance of water conservation and judicious ground water management.
The data generated from various studies taken up by CGWB provide a scientific base for water resource planning by stakeholders. Besides advising states and other user agencies on planning and management of ground water resources, Central Ground Water Board also provides technical know-how for scientific ground water exploration, development and management to various stakeholders.Thus the site visit was very much essential to students as the entire *functions of Central Ground water board was explained to them.*

25. Guest Lecture on Public Transport Planning, 2nd February, 2017

A guest lecture was organized for M.Tech students of Civil Engineering Department, in the CRC Seminar hall. The resource persons of the day were Mr.Tonstin and Dr.Andreas Rau, from **Technical University of Munich in Singapore (TUM Asia)**. The session began with welcome note and the Head of the department Mr.Sathyanarayanan, introduced the speakers to the gathering. Following which, Mr.Tonstin introduced his University. He introduced the various degrees offered at TUM Asia, Undergraduate andGraduate Programmes (4 out of 5 programmes are double conferred with NUS or NTU)The new course that is offered at the University is M.Sc. in Transport and Logistics with three specialisations' namely Logistics, Transport and Railway Engineering. He explained the need to opt the University and the whereabouts of their graduates. Two videos were played showing their campus and a student sharing her experience at TUM Asia. It was followed by scientific talk by Principal Investigator Dr. Andreas Rau. He presented a power point presentation showing his study on Public Transport Research at TUM CREATE Singapore – Solving Transportation Issues in Urban Cities. He clearly explained the objectives of the study and thedetails related to the road network system. Following which, Dr.V.Aneetha (PhD – IIT Madras) presented her study on Transport infrastructure in India: Development, Challenges and Research perspectives. She explained and showed the scenario in India and use of BIM for highway infrastructure. Dr. SadgunaNuli (PhD- IIT Bombay Transportation Engineering) also presented his research work on the title Heterogeneous Traffic Flow Modelling and Adaptive Traffic Signal Control – Stop Line Detection. The session came to end with the delivery of vote of thanks after various discussions and clarification of queries.

26. International Technical Training Programme On"Groundwater Monitoring Compliance"ForEngineers, Ministry of Electricity & Water, Kuwait.23.1.2017 - 03.02.2017

An International Technical Training Programme on "Groundwater Monitoring Compliance" was organised by the Department of Civil Engineering in collaboration with National Petroleum Services Co.(K.S.C), Ahmadi 61008, Kuwait(23rd January 2017 to 3rd February 2017).It was a pre scheduled 10 days training program starting on 23rd. The inaugural function was chaired by Chief Guest –Dr.S.BalachandranDirector, IMD Nungambakkam, Chennai. Following which we had lectures on topics, "Water Quality Monitoring – Guidelines"and"Ground Water Sampling Testing Procedure" by Dr.Arutchellvan**,** Prof. & Head,

Department of Civil Engineering and Dr.A.Murugappan, ProfessorAnnamalai University respectively.

On day 2 had lectures on topic "Sources, Quality & Standards of Water" and "Introduction to Analytical Instruments for Ground Water Analysis" by Dr.R.Sathyanathan ,Assistant Professor,Department of Civil Engineering, Dr.Jeyalakshmi, Professor,Department of ChemistrySRM University respectively.

On 3rdand 4th day of training they were taken for an Industrial visit to NITTR and IIT Madras Visit followed by site visit at Tondiarpet(Disposal of Oil waste) along with Dr.IndhumathinambiAssociate Professor, IIT Madras guiding them and explaining them the various aspects and working systems of the visit.

Day 5 was filled with more interesting sessions on "Hands on Training on MODFLOW & Case Studies" by Dr.R.Saravanan,Associate Professor, CWR.Anna University, followed by Lecture on "Ground Water Sampling & Status of Ground Water in Global Scenario" by Dr.SuriBabu.C.R,Professor. SASTRA University, followed by Lecture on "The ability to conduct, Interpret and analyse soil & Ground Water data select suitable remediation Procedures & Techniques" by Dr.Sujatha.E.Ramani,Associate Professor , SASTRA University.

Second week various other aspects were covered in training with topics like "Ideas on Water Quality", "Roles & Responsibilities of CPCB", "Hands on Training at CGWB Lab", "Introduction to Water Quality Analysis & Hands on Training",Lecture on "Instrumental Methods of Water & Waste Water Analysis" followed by "Hands on Training using HPLC & TOCanalysis" by Dr.S.Mathava Kumar (Asst.Professor,Dept of Civil , IIT , Madras), Dr.A.MANOHARAN(Environmental Consultant EX. ZonalOfficer(CPCB),Chennai.),Shri. Ravichandran (Sr. Scientist, CGWB, Chennai.), Dr.ParomitaChakraborty (Assistant Professor,SRM Research institute), Dr.B.Neppolian (Professor, SRM Research Institute) respectively. The last session was on 3rd of February with the special guest Shri. A Suuburaj, followed by a feedback session. Thus the training programme was a great success.

27. Guest Lecture on Megaprojects, 15th February 2017

A programme on megaprojects was conducted by the Department of Civil Engineering at the CRC seminar hall. The programme started in the afternoon with Dr. S. K. Satyanarayanan, HOD, Civil Engineering introducing the chief guest of the hour Dr. Ganesh Devkar. Dr. Ganesh Devkar having completed his Masters in Engineering from IIT Madras, has also worked as a Senior Project Manager at IIT, Madras. He has seven years of experience in IIT, Madras and two years of experience in **Centre for Environmental Planning and Technology University** (**CEPT University**). He has received the prestigious PRM Research Award and he is currently doing his

research on Public Private Partnership in urban development. Dr.Devkar started his speech with introduction of himself and he shared his experience at IIT Madras and CEPT, Ahmedabad. He also presented a project report done by one of his M.Tech students, on Megaprojects and their management at CEPT University. He shared the detailed analysis and an over view of how the management sector of Construction industries functions. With several graphs and histograms he brought out the delays in projects and the causes behind them. Soon he concluded the study and left the hall open for an interaction and to clarify doubts.The programme came to an end as Dr. V. Aneetha presented the momento to the chief guest and thanked Dr. Ganesh Devkar for spending his precious time .

28. Guest Lecture onVarious Aspects of Construction Contract and Arbitration, 23rd February 2017

A seminar on Various Aspects of Construction Contract and Arbitration was held by the Department of Civil Engineering at the CRC seminar hall. The programme started with the introduction of the chief guest by Dr. V. Thamilarasu. The chief guest, Mr.Er. K. Ganesan, Chairman of Indian Institute of Technical Arbitrators, with forty years of experience including nineteen years in the Middle East, has completed his MS from IIT, Madras in 1982 and Masters in Management in 1987. He is presently a Guest Faculty at IIT, Madras in the Construction Management Department.Following the brief introduction, chief guest started his lecture on "Overview of Contracts and Contract Management" and explained the topic by citing his personal experiences. He explained in a nutshell as to what are contracts and its need in the industry. He motivated young minds to explore more and be updated. The lecture was followed by an interactive session where the students and they were free to clear their doubts.Theprogramme came to an end

with the secretary, SRM Society of Civil EngineersMs.Namratha, giving the vote of thanks. The Civil Engineering Department thanked Er. K. Ganesan by presenting him with a memento for his precious time and for sharing his knowledge.

29. Guest lecture on Role of Microbial Products in Understanding the Origin of Life and Waste Management, 24th February, 2017

A special guest was invited to the Department of Civil Engineering, DR. A. GNANAMANI (Microbiology Division CSIR- CLRI, Adyar, Chennai). Her career and devotion to what she was doing inspired each and every student. The head of the department introduced her and conveyed his wishes to students as they were blessed to be a part of the Guest lecture of the day.

DR.A.GNANAMANI started her lecture by sharing her experience in the field and as the topic was very new to the young budding Engineers, she explained each and every term to make the session interesting.

She divided her lecture into two parts .In first session she discussed about the Role of Microbial Products in Understanding the Origin of Life. She explained what a self-assembly is with many examples and pictures. Self-assembly is analogous to the assembly of a puzzle where the characteristics of each piece and the surrounding environment allow each piece to only fit in its proper location. Further she explained Brownian motion and Intermolecular forces which were the essential requirements for self-assembly. Successful self-assembly engineering requires the balance of Brownian Motion and Intermolecular Forces. Brownian motion contributes by moving components into correct location and orientation. Intermolecular Forces are utilized to hold components in position. The process is massively parallel and "self-correcting". If a component is assembled incorrectly, it is likely that Brownian Motion will shake it loose until it assumes the proper configuration. There were several reasons for interest in self-assembly as they helped in developing and understanding the self-assembled supra molecular structures which are the interest of major research groups working on the evaluation of "Origin of life" and they argued that the emergence of life is a series of chemical reactions and in that self-assembly is one thread lead the process. She discussed self- assembly under both static and dynamic conditions. Molecular assembly involved non-covalent interactions (van der Waals, electrostatic and hydrophobic interactions, and hydrogen and coordination bonds. It thus refers to a thermodynamics process, and the molecules and the self- assembled aggregates are in equilibrium. Self-assembly is the force balance process between three classes of forces: attractive driving, repulsive opposition, and directional force. She further diagrammatically brought out the importance of Surfactants (Micelles). The first session came to an end with the insight into their work in preparation of self-assembled stable structures.

In the second session she dealt with Role of Microbial products in Waste Management. Their study involved various processes like collection of marine samples from the coastal area, biodiversity study of marine isolates obtained from Tamil Nadu coastal plain,Morphological examinations,Characterization of potent bio surfactant producing marine isolate – ETW 5P,Recovery of bio-surfactant using various methods, Characterization of partially purified bio-surfactant (PPBS), Bioremediation studies on crude oil, Hexavalent Chromium reduction and

tolerance behavior of marine isolate. Thus the session came to end and the hall was left for queries. Many faculties cleared their doubts and guest was honored with momento.

30. National Level Two Day Workshop On "Tech-Knowledge Transfer Between Institute And Industries On Concrete And Construction" –3rd and 4th March, 2017

A National level Two day workshop on "Tech-Knowledge transfer between Institute and Industries on Concrete and Construction" was organized by Department of Civil Engineering, SRM University. The workshop was mainly focused on stimulating the Industry – Institute Collaboration and around 100 overwhelming respondents from 20 Engineering Colleges participated in the workshop.

The workshop was inaugurated by the Chief Guest, Shri. A. Arul Dhas, IDSE, CE, Jt DGW (Utility), MES, New Delhi. Dr.T.P.Ganesan, Pro Vice Chancellor(P&D), SRM University, Dr.K.S.Satyanarayanan, HOD, Department of Civil Engineering, Dr.K.Gunasekaran, Coordinator, $TKI^2C^2$and Mr.P.Jagannathan, Coordinator, TKI^2C^2.

Dr.K.S.Satyanarayanan, Convener of the workshop welcomed the gathering. Dr.K.Gunasekaran, Coordinator, TKI^2C^2 informed the gathering about the workshop and put forward that the forthcoming lectures by academic and industrial experts will bridge the gap between industry and institute. Dr.T.P.Ganesan, Pro Vice Chancellor(P&D), SRM University presided over the function and expressed the importance of organising conferences, seminars and workshops which will supplement the knowledge of students gained through classroom lectures and laboratory experiments. He also congratulated the Head of the department of civil Engineering and the coordinators of the workshop, for organising such events in a systematic and effective manner.

The next session was presented on 3rd March by Shri. A. Vetriselvan, Chief Engineering Manager L&T Geostructure, Chennai, in the topic on Deep Excavation in Urban Scenario, Er. M. Kamalakannan Managing Director Utracon Structural Systems Pvt Ltd, Chennai, in the topic on Construction Industry Trends and Opportunities for the Civil Engineers, Dr. Manu Santhanam, IIT (M), Chennai, in the topic on The Use of Limestone Calcined Clay Cement for Durable Concrete, on the next day was presented by **Dr. Ayothiraman R. IIT (D), New Delhi, in the topic** on Foundation Design in Liquefiable Soils Current Practice and Future Trends, Shri. Jayasankar. K UltraTech Cement Ltd, Bangaluru, in the topic on Enhancing Excellence in Concrete Construction, Shri. D. Vijayan NRSC, ISRO, Hyderabad, in the topic on Utilization of Space Technology in Civil Engineering.

The last session was followed by a Valedictory function. Dr.K.S.Satyanarayanan, Convener, TKI^2C^2 put forward that the Department of Civil Engineering intends to conduct more workshops and events in the coming year that will further stimulate industry institute Collaboration to the next level and also invited the experts to join Corporate Advisory Board of SRM University and the certificates was distributed, TKI^2C^2 thanked the experts, the coordinators of the workshop and the participants. This intensive workshop was found to be quite informative and interesting for the participants.

31. Guest Lecture on Recent Excavations and Conservation of Heritage Structures, 17th March, 2017

A guest lecture was organized for M.Tech students of Civil Engineering Department, in the CRC Seminar hall. The resource person of the day was Shri. N. Taher, Superintending Archeologist, Hyderabad Circle, Telangana. The session began with welcome note and the Head of the department Mr.Sathyanarayanan, introduced the speakers to the gathering. Following which, speaker talked about the Heritage and conservation that have become important themes in current discussions on place, cultural identity, and the preservation of the past. Archaeological sites have long been a part of heritage and its display, certainly before the use of the term “heritage” and the formal study of tourism. However, current concerns with their escalating destruction can be attributed to the perception among the public and professionals alike that archaeological sites, like

the natural environment, represent finite nonrenewable resources deteriorating at an increasing rate.

He further added that like all disciplines and fields, archaeological conservation has been shaped by its historical habit and by contemporary concerns. Important in its development has been the shifting, even expanding notion of site conservation to include the stabilization and protection of the whole site rather than simply in situ artifact conservation or the removal of site (architectural) features. The public interpretation of archaeological sites has long been associated with the stabilization and display of ruins.This implies the application of a variety of specialized technical knowledge, but ideally the process must be brought back into a cultural context so that the archaeology and conservation project become synonymous. The session came to end with the delivery of vote of thanks after various discussions and clarification of queries.

32. Guest Lecture on types of failure in the construction and its impact, 21st March, 2017

Dr.K.Saravana Raja Mohan, Chief guest of the program presented the different types of failure in the construction and its impact on mankind on 21st March 2017 for the PG students of structural engineering.Failure of construction is an important subject for an owner or a builder, since it involves human life and money. Structural failure may be prevented by incorporation of a proper design and use of quality materials. Workmanship is also an important factor to ensure a proper structural construction.

33. Workshop on "Innovative Techniques in Water Management" (ITWM), 22nd March 2017

The National Workshop on Innovative Techniques in Water Management ITWM 2017 on account of World Water day was conducted by the Department of Civil Engineering on 22 March, 2017 at SRM University. Dr. K. S. Satyanarayanan, Head of the Department of Civil Engineering delivered the welcome address and insisted on the importance of conservation of water.

The inaugural speech was given by the chief guest Dr. P. Shanmugam, Senior Principal Scientist, Environment Engineering Division, CLRI, Chennai. He engaged the participants with his lively speech, which gave insights about the quality of water and its relation to cultural heritage.

The first speaker of the morning session Dr. Ashutosh Das, Pro-Vice Chancellor in Research Environmental Engineering, PRIST University, Thanjavur, provided resourceful information on low cost water treatment technologies. Professor Brahadeeswaran, Dean, Department of Civil Engineering, Shanmuganathan Engineering College, Pudukkottai, delivered a lecture on 'Rain water harvesting technologies: the reality'. He gave a holistic view of the rain water harvesting methods from all over the world and substantiated them with interesting videos.

The post-lunch session was started by Dr. K. P. Sudheer, Professor, Environment and Water Resource Engineering Division, IIT Madras. He spoke about the present scenario of the sustainable water management and challenges in India. The afternoon session concluded with a speech by Dr. B. V. Mudgal, Professor, Centre for Water Resource Engineering, Anna University. He addressed the integrated water management strategies, the present and future scenario in India.

The valedictory session featured an industry expert, Mr. Moses John, CEO of Hubert Enviro, Chennai. He regaled the audience with his experiences in CPCL in the 80s when they had water shortage and had to look for alternative technologies. The workshop had participants from academia and industry. Participants from Andhra Pradesh and Kerala attended indicating the interest in conservation of water. Sustainable development and conservation of water is the need of the hour and for the future.

34. Motivational Lecture on "I, Me, Myself", 31st March 2017

Department of Civil Engineering organized a meeting titled "I, Me, Myself" to awaken and open the minds to some amazing truths. The speaker for the hour was Mr.Surya Prakash,leadership coach. The speech interested many and clarified many doubts that each one could have within them. All of us have infinite potential, irrespective of who we are, what we are and how old we are!! However, we only use a fraction of that potential. Attitude, Behavior or Habits must be hindering us from maximizing that infinite inner potential, there is no external GURU required for attitude, behavior, habits & desire. We are our own GURUs. That was all about I, ME, MYSELF.

35. **Industrial visit to " Formation of New Reservoir near Kannankottai and Thervoykandigai Village in Gummudipunditaluk of Tiruvallur District", 11th April,2017**

Students from M.Tech, Construction Engineering Management students(I year), 39 in number, along with Mr.P.Jaganathan, visited "Formation of New Reservoir near Kannankottai and Thervoykandigai Village" in Gummudipunditaluk of Tiruvallur District. The new reservoir would have a capacity to hold 1,000 million cubic feet of water when filled twice. This is equal to the volume of water drawn from the existing reservoirs now to supply Chennai for nearly 45 days.Besides its catchment areas, the reservoir would be fed with Krishna water from Andhra Pradesh.

Preliminary work is now on to create a 7-km-long link canal to bring Krishna water from the KandaleruPoondi canal to the reservoir."We will use the sand excavated from the water bodies to create the bund for the reservoir and the canal. We are now excavating sand to form the canal for a stretch of one km. Once more land is available, we will be able to take up work on the entire stretch simultaneously," said the official as they shared more details with students. This was a great insight to the students.

36. **Valedictory Function Of SRM Society Of Civil Engineers – ICI Student Chapter, SRM University –19thApril 2017**

Department of Civil Engineering, SRM University organized the valedictory function of SRM-ICI Student Chapter on 19th April, 2017. Mr. M. SaiSabarish, Student Secretary, delivered the welcome address and Dr. K.S.Satyanarayanan, Head of the Department introduced the Chief Guest to the gathering. Ms.Namrata Singh Solankiread delivered the annual Report for the academic year2016-17.

Shri.M.Suyambulingam, Chief Bridge Engineer, Southern Railway, Chennai, has delivered a special lecture on the growth and importance of repairing structures. The students were highly benefited from the lecture as it gave them insights on how to go about planning their future roles in high-flying organizations.

Best Student awards and awards for Cent Percent Attendance were given out to the students for both undergraduate as well as postgraduate students. Mr. Bhogavilli Surya Vamshi, Student Secretary proposed the vote of thanks and concluded the ceremony.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