

dedicated to CORE, which was an amazing breakthrough and an opportunity to learn several new skills as well as it motivated the participants enough to join in for the events. It was the website and the theme of the event that enabled all the participants as well as the organizers forget about the extreme tight schedule they were going through.

Another huge milestone to talk and cherish about is the number of participants that core brought into it which crossed over 500 participant altogether. The event had a total of 20 events (technical, non-technical and sports) out of which the most popular was CADD race which alone attracted over 140 participants in a day, while no event having less than at least 20 participants. Due to the higher number of active participants, the organizers also achieved a grand success in attracting the participants on their daily blog on the website which had crossed over 5500 page views in total with over 700 unique visitors majorly from India as well as some other parts of the world such as Netherland, Japan, UK and UAE. This enabled CORE 2K18 to make a separate place in the hearts of every students as well as faculty members of department as well as in entire college, as we got to know from the feedbacks from the comments and direct messages through website as well as in person, by participants, teachers, and alumni of SONA residing inside and outside the College/Country. CORE–2018, first paperless Intra department technical symposium of Sona College, was organized by our Civil Engineering department of Sona College of Technology on 15th October, 2018 at P.G. Auditorium Hall in the presence of principal, Head of the Department, students and faculty members of Civil

Engineering Department. We invited the Chief Guest as Er.K.Mayilraju, President, Salem civil engineers association & proprietor of Sindhu Designers. who gave a keynote address and share his experiences to gatherings. The welcome address by Dr.R.Malathy, HoD of civil Engineering department, SCT. Mr. C.Thinakaran, Student chairman –ACE address the details of CORE-18 program. They are nearly 400 students are participated in various events including sports. In Sona College this is the first time the program was organized without using paper and create own website for this program. Our chief guest appreciated the students and distributes the medals and shields. The vote of thanks was given by Mr. K.PRAKASH, Assistant professor, Department of Civil Engineering. The program was coordinated by Association coordinator and Class counselors of final year.



Celebration on CORE 2K18- first paperless symposium at Sona College of Technology

ACHIEVEMENTS

1. Wrestling(free style and Greco roman style)- **Gold Medal**
2. State senior (men&women) wrestling championship - **Gold Medal**
3. Under 23 wrestling selection trial 2018 - **Selection process**
4. All India wrestling under 23 championship 2018 - **participation**



K.Thangarasu
B.E /III year/CIVIL

1. NPTEL COURSE ON “Design of reinforced concrete structures” - **96/ Gold/ Topper of 1% in this course**
2. NPTEL COURSE ON “Reinforced concrete road bridges” - **98/ Gold/ Topper of 5% in this course**



Paras Kumar Gupta
B.E /III year/CIVIL

Build Expo 2018 – Smart Village - **Second Place**



Nandhini M
B.E /II year/CIVIL



Megala K
B.E /II year/CIVIL



Kavyaa S
B.E /II year/CIVIL

TOPPERS LIST

Name of the Student	CGPA	Rank
VII Semester		
Arumugam Maharaja M	9.78	I
Revathi P A	9.67	II
Nisha K U	9.56	III
Kavya S		
Shushil Prasad Chaurasiya		
V Semester		
Chittal B	9.73	I
Soumya S	9.58	II
Akhilandeswari V	9.54	III
III Semester		
Gnanameenambigai M	9.83	I
Tara Chandra Panjiyar	9.65	II
Bijay Khanal	9.57	III



Convenor : Dr. R. Malathy, Ph.D.
Dean(R&D), HoD/Civil

Co-ordinator: Prof. M. Arivoli

Chairman: R. Pooja

Secretary: F. Siva Prasath

Joint Secretary: M. Vanmathi

Treasurer: N. Pradeepa

Office Bearers

K. Pavithra | K. Ashwanth |

R. Sri Hari | C. Thinakaran

K. Kavya | A. Rasheeda Fathima

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

To enable the students,

PEO 1: To perform their/duties efficiently, effectively and ethically at individual level and also at group level in a multidisciplinary team, contributing to the welfare of the society.

PEO 2: To analyze data and technical concepts pertaining to the development of infrastructure, design, sustainability, construction management and any other related field of civil engineering.

PEO 3: To adopt new innovative technology by continuously updating their knowledge through life-long learning achieving personal and organizational growth.

SONA CREA

Thirteenth Issue | January 2019



Indian Concrete Institute

ICI STUDENT CHAPTER

DEPARTMENT OF CIVIL ENGINEERING



PRINCIPAL'S MESSAGE

I am gratified to know the Department of Civil Engineering is bringing out the thirteenth issue of their technical magazine “SONA CREA”. This is a productive technical material and subsidiary skill- developing tool for the students. I wish the Civil Engineering Department a very big success in all their ventures. I also applaud the coordination and efforts behind the team o bring out this issue. I wish them all success.

Dr. S.R.R. SENTHIL KUMAR
Principal

I am exhilarated in establishing the thirteenth issue of the magazine “SONACREA” of our Civil Engineering Department, which is a reference of the most recent trends and activities in construction field. This magazine should be good source of guidance for faculty and coming batches of students in choosing activities of their choice in their future for building their careers.

I appreciate the efforts of the editorial team who have done an excellent job in compiling activities over the semester and disseminate them through this magazine as well as on the website. I am glad to welcome students with more interest in bringing the article with more bright concepts and innovative ideas in the next issue. I wish them to experience victory in all of their future endeavors.



HOD'S MESSAGE

Dr. R. MALATHY

HoD / Civil
Convenor/ ICI Student Chapter



ICI STUDENTS CHAPTER
COORDINATOR MESSAGE

M. ARIVOLI

AP/ CIVIL | ICI Students Chapter Coordinator

To become a school of excellence that brings out civil engineers with high technical competencies and promotes high-end research to meet the current and future challenges in civil engineering.

VISION OF THE DEPARTMENT

MD1 : To offer Under-Graduate, and Post-Graduate programmes in civil engineering and other skill development courses that adds value to student competencies

MD2 : To promote quality education, research and consultancy for industrial and societal needs

MD3 : To inculcate moral and ethical values among the students

MD4 : To impart knowledge with emphasis on the development of leadership qualities in students

MD5 : To provide state-of-the-art resources that contribute to a congenial learning environment

MD6 : To encourage students to pursue higher education and take competitive exams and various career enhancing courses.

MD7 : To establish centres of excellence in emerging areas of research

MD8 : To have regular interaction with industry and offer solutions to their problems.

GREEN BUILDING DESIGN

DEFINITION: Green building is the practice of creating structures and using processes that are environment -ally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high performance building.



Dr. M.N.A. Gulshan Taj
Associate Professor/CIVIL

ELEMENTS OF GREEN BUILDING DESIGN

1. Materials for Green Building

Materials for a green building are obtained from natural, renewable sources that have been managed and harvested in a sustainable way; or they are obtained locally to reduce the embedded energy costs of transportation; or salvaged from reclaimed materials at nearby sites. Materials are assessed using green specifications that look at their Life Cycle Analysis (LCA) in terms of their embodied energy, durability, recycled content, waste minimization, and their ability to be reused or recycled.

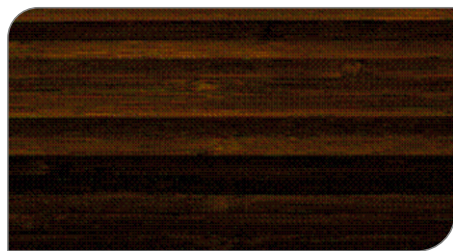
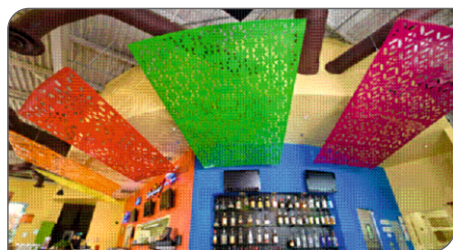


Figure 1: Recycled ecofriendly building materials

2. Energy Systems in Green Buildings

Passive solar design will dramatically reduce the heating and cooling costs of a building, as will high levels of insulation and energy-efficient windows. Natural daylight design reduces a building's electricity needs, and improves people's health and productivity. Green buildings also incorporate energy-efficient lighting, low energy appliances, and renewable energy technologies such as wind turbines and solar panels.

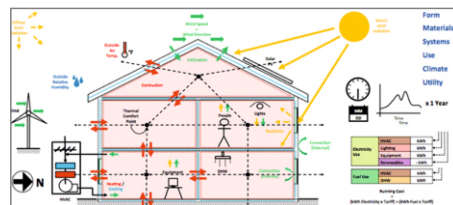


Figure 2: Efficient energy system

Passive solar design uses sunshine to heat, cool and light homes and other buildings without mechanical or electrical devices. It is usually part of the design of the building itself, using certain materials and placement of windows or skylights.

3. Water Management in Green Building

Minimizing water use is achieved by installing greywater and rainwater catchment systems that recycle water for irrigation or toilet flushing; water-efficient appliances, such as low flow showerheads, self-closing or spray taps; low-flush toilets, or waterless composting toilets. Installing point of use hot water systems and lagging pipes saves on water heating. Rainwater harvesting is the principle of collecting and using precipitation from a catchments surface. An old technology is gaining popularity in a new way. Rain water harvesting is enjoying a renaissance of sorts in the world, but it traces its history to biblical times. Extensive rainwater harvesting apparatus existed 4000 years ago in the Palestine and Greece. In ancient Rome, residences were built with individual cisterns and paved courtyards to capture rain water to

augment water from city's aqueducts. Surface water is inadequate to meet our demand and we have to depend on groundwater. Due to rapid urbanization, infiltration of rainwater into the subsoil has decreased drastically and recharging of groundwater has diminished.

4. Health Components

Using non-toxic materials and products will improve indoor air quality, and reduce the rate of asthma, allergy and sick building syndrome. These materials are emission-free, have low or no VOC content, and are moisture resistant to deter moulds, spores and other microbes. Indoor air quality is also addressed through ventilation systems and materials that control humidity and allow a building to breathe. In addition to addressing the above areas, a green building should provide cost savings to the builder and occupants, and meet the broader needs of the community, by using local labour, providing affordable housing, and ensuring the building is sited appropriately for community needs.



Figure 3: Built with nature

LUMINOUS CEMENT COULD LIGHT ROADS & STRUCTURES

With rapid industrialization, the development of intelligent construction materials with respect to energy efficiency is done by modifying its one or more properties in a controlled way through external stimuli like



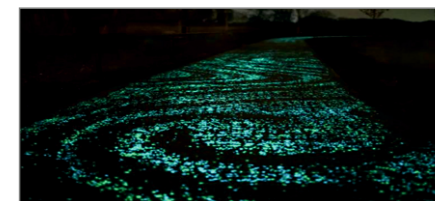
Prof. S. Priscil Nidhu
Assistant Professor/CIVIL

radiation, pH, temperature, humidity and other environmental factors.

In line with these new innovations, Dr. Jose Carlos Rubio Avalos of Michoacan University in Mexico has developed a new type of cement that could absorb and irradiate light energy, in order to provide greater functionality and versatility to concrete in regards to energy efficiency.

This was achieved by the process of polycondensation of raw materials like silica, river sand, industrial waste, alkali and water at room temperature which does not require high energy consumption. Along with these raw materials certain additives are added to modify the optical properties of the material to make it phosphorescent.

These additives prevent the formation of crystals that occur during production of cement, thus creating a new material with a non-crystalline structure, similar to glass, that allows passage of light inside. By varying the proportion of additives during manufacture, its luminescent intensity and color can be regulated. This phosphorescent material absorbs energy from radiation such as ultraviolet rays emitted by the sun or by artificial lights if indoors, and emits the energy as light which can be seen during dark. As it loads up energetically with UV rays, even on cloudy days the cement will be able to absorb enough energy to glow during dark periods for up to 12 hours. Currently it exists in blue or green color. It has broad applications in architectural market, highways, bicycle lanes, parking lots, swimming pools, road safety and road signs. It can be used anywhere you want to illuminate that don't have access to electricity as it is recharged only with light. The durability of this light emitting cement is estimated to be more than 100 years due to its inorganic nature and it is also sun resistant.



Light Emitting Cement in parking lots

KINETIC PAVEMENT

London-based startup Pavegen has developed a special energy-harvesting tile – made from 95% recycled tyres – that flexes by 5mm when stepped on, resulting in up to 8 watts of kinetic energy over the duration of the footstep.



Mr. Niranjan Lal Karn
11-year, Civil

Every step is good for about 3 joules of energy, which could light a LED streetlamp for 30 seconds. Enough tiles and enough footsteps can create enough energy to be stored in batteries, or help power electrical items.

Each tile boasts unique wireless communications technology too. It uses only 1% of its power to transmit data about the number of footfalls and energy generated. This means city officials and business types can see how many people are passing through an area, and then make smart decisions about the way the extra power is used.

Dubbed the 'world's first smart street', the tiles now power London's Bird Street – aptly providing birdsong by day, and light at night. The paving here sports a new triangular tile, providing 20 times more power than Pavegen's early versions.

The tiles were also installed over a 25-metre distance at the start point of the Paris Marathon, as well as other key points en route. During the race, runners and bystanders generated nearly 5 kilowatts of electricity, enough

to power a laptop for 52 hours, drive an electric car for 15 miles or light up a village in a developing nation for an entire day.

Ultimately, Pavegen hopes to make the tiles as affordable as regular floor tiles, and see them installed in offices, schools and public spaces around the world. The technology has come under some criticism because, well, it's not as powerful as conventional electricity sources. The average person will walk 150 million steps in their lifetime, so in theory, that's only enough to power the average family home for 3 weeks. But...combine all the steps of all the people on the planet, and we're talking about a serious contribution to sustainable energy.



Pedestrians could generate energy for the street simply by walking on it

As natural resources get lower and energy prices get higher, we need all the help we can get. Of course, you can power your own home with 100% renewable electricity – and without installing a kinetic floor – just opt for our Green Energy add-on (no marathon training required).

London isn't the sunniest place in the world so an effective alternative to solar is to use kinetic energy to harness the more evergreen supply of movement.

Pavegen's pavement is designed to flex an unnoticeable amount of about 5mm when stepped on, which generates around 3 joules per footstep or 5 watts of continuous power. The slab absorbs the energy either to store it in a lithium polymer battery or instantly supplies it to nearby electronics, such as street lamps.

A typical light bulb requires 0.06kWh, or 60W in an hour, so one bulb could effectively be powered for an hour with less than nine footsteps. Enough steps on enough slabs could, in theory, generate sufficient energy to supply all the energy needs of the street.

Also, data about people's movements can be tracked via wireless technology, so the number of footfalls and information about generated energy can be stored and analysed in order to monitor the effectiveness and efficiency of the project. According to research from Pavegen, people are actually 30% more likely to step on one of its slabs than a normal pavement tile.



BASALT FIBER CONCRETE AND CONCRETE REINFORCED WITH BASALT FIBER REINFORCEMENT

Concrete is a brittle material and possesses very low tensile strength; limited ductility and little resistance to cracking. Internal microcracks are inherently present in the concrete and its poor tensile strength propagates such microcracks and eventually leading to brittle failure of concrete.



Mr. Roshan Kumar Sah
Civil

To improve brittle behavior, impact resistance and tensile strength, fiber of different kind such as steel fiber, glass fiber, polypropylene fibers carbon fibers etc. use in the past. The latest fiber in the list in basalt fiber.

One of the causes of the failure in the reinforcement concrete structure is due to corrosion of steel reinforcement. It was reported that about 40 per cent of failure of RCC structure was due to the corrosion of reinforcement. Use of the nonferrous fiber reinforced polymer (FRP) reinforcement bars making use of glass fiber or carbon fibers etc.

V. Ramakrishna and others in south Dakota school of mines and technology have investigated for the first time in the world, the use of basalt fiber reinforcement in concrete. The result of the investigation shows that the rebars made from basalt fiber is a viable alternative to the conventional steel reinforcement as it is found to be superior in many respect.

Production process

Basalt is available and low cost raw material. About 1/3 of the earth crust consists of basalts, irruptive inert rock is found worldwide. It can usually be seen in the form of a crushed stones which are used for building and road construction.

At the basalt quarry basalt rock is crushed into 3-20 mm pieces and delivered to the BCF plant as raw material. Basalt raw material is loaded into a stone smelting furnance where basalt is smelted under 1450-1600 degree celcius. Basalt melt is loaded to the stove feeder and goes through the holes the stream feeder assembly. After the stream feeder assembly, ultimate basalt fibre with diameter of 6-21 microns are loaded into the lubricating device.



Winding of basalt fibre

A winding machine is winding continuous fibre on drums. The primary thread is rewound from the drum of the assembly winder into roving coils. Coils of BCF rove are stacked of the pallets and delivered to customers.

Basic characteristics

High strength durability: The strength to weight ratio of basalt fibre exceeds the strength of aaloyed steel 2.5 times, the strength of glass fibre 1.5 times.

High thermal resistance: The range of temperature for BCF long time application is -200-+600 degree celcius short-term impact of temperature upto +700 deg. Celcius.

High chemical durability to impact of water, salts, acids and alkali solutions in particular. Unlike metal, BCF is not affecter by corrosion. Unlike fibre glass ,BCF is not affected by alkali.

High compactibility of BCF with other materials, including metals, plastics, glues.

Materials made on the basis of BCF can be processed using different technologies, such as molfing, winding, pultrusion, sputtering and other cold technologies.

High sound insulating characteristics and resistance to vibration.

BCF material are fire proof and absolutely non-flammable and possess thermal durability.

Plastic properties

The freshly mixed concrete was tested for slump, air content, unit weight, concrete temperature, Vee-Bee time, etc.

In all these tests the basalt fibre reinforced concrete didn't differ much from plain concrete accept that slump and Vee-Bee slump decreases with the addition of fibres, and Vee-Bee time increase with the addition of fibres.

Test for hardened concrete

For hardened concrete , compressive strength test, static modulus, fluctural strength test, behavior of load deflection and impact test by drop weight test method, were conducted. In all these tests much desirable properties were exhibited by basalt fiber concrete than the plain concrete.

Advantage & uses

The price of basalt fiber is cheaper than price of steel reinforcement with the same strength property at rate of 10-30%, if profitable of basalt-plastic rebar production will be 100%. BCF geo grid is used as a reinforcing material in construction of roads, airport runways, water side structures, for reinforcement of concrete floors, walls, etc.

Satisfactory workability can be maintained with the addition of basalt fibers upto 0.5% by volume. A higher % of fibers could be used without causing any balling or segregation. Compared to the control concrete, there was considerable increase to the toughness and impact strength for the basalt fiber concrete. The most important contribution due to the addition of basalt fiber in concrete is the change of mode of failure from a brittle to ductile failure, when subjected to compression, bending and impact. Based on early research conducted with other fibers in concrete, it is suggested that the length of the fibers could be increased from 25 mm to 50 mm for better performance.

REPLACEMENT OF CEMENT BY SUPPLEMENTRY MATERIALS

Concrete is the most used construction material in the civil engineering. Concrete is the world's most consumable product next to water. The fly ash and GGBS has been used as partial replacement of cement in the concrete.



Mr. Sonu Kumar Sah
Civil

The fly ash is obtained as combustion of pulverized coal and collected by mechanical dust collector or electro static precipitator. The GGBS is a by – product of iron and steel making industry, obtained by quenching of molten iron slag from a blast furnace in water or steam to produce a glassy granular product that is then dried and ground into a fine powder. By utilizing these two products as a partial replacement of cement in concrete, the concrete can be made more eco-friendly by reducing the use of cement. In the present work, an attempt has been made to use a fly ash and GGBS as a partial replacement of cement. The main aim of this work is to study the fresh and hardened properties of M-30 grade control concrete and concrete made with partial replacement of fly ash and GGBS with various percentages. To study hardened properties compressive and splitting tensile strength tests are conducted and comparison study will be done.

Objectives of the Study

The following are the main objectives of the study

1. To evaluate the fresh properties of control concrete of M-30 grade and concrete made with partial replacement of cement by fly ash and

ground granulated blast furnace slag for fresh properties, slump cone test, compaction factor test and vee-bee consistometer test are conducted.

2. To find out the compressive strength of control concrete of M-30 grade and concrete made with fly ash and ground granulated blast furnace slag as a partial replacement of cement at 28 days, 56 days and 90 days, tests are conducted.

3. To find out the split tensile strength of control concrete of M-30 grade and concrete made with fly-ash and ground granulated blast furnace slag as a partial replacement of cement at 28 days, 56 days, and 90 days, tests are conducted.

Mix Design

Table.1

W/C	Cement	Fine aggregate	Coarse aggregate	Water
0.44	447.73 (kg/m³)	632.44 (kg/m³)	1115.4 (kg/m³)	197 (kg/m³)

Table.2

Grade	Cement	Fly ash	GGBS
M5:	40% CEMENT	20% FLY ASH	40% GGBS
M6:	40% CEMENT	30% FLY ASH	30% GGBS
M7:	40% CEMENT	40% FLY ASH	20% GGBS
M8	40%CEMENT	50% FLY ASH	10% GGBS
M9	50% CEMENT	25%FLYASH	25% GGBS

Compressive Strength Test

Taken by 150 X 150 X 150mm of cubes in 28, 56 and 90 days of curing. Following table gives the compressive strength test results of control concrete and concrete made with fly ash and GGBS as partial replacement of cement.

Table.3

Days of curin	28 days	56 days	90 days
M5	31.26	44.15	44.40
M6	24.67	28.44	35.03
M7	34.67	44.70	45.03
M8	0.15	27.11	32.74
M9	20.01	27.10	31.95

Tensile Strength Test

Table.4

MIX DESIGNATIO	SPLIT TENSILE STRENGTH (N/		
	28days	56 days	90 days
M5	3.18	3.48	3.51
M6	2.83	3.26	3.49
M7	3.25	3.50	3.61
M8	2.57	3.10	3.25
M9	2.69	2.76	2.95

Test On Fresh Concrete

The test conducted on fresh properties of control concrete and concrete made with fly ash and GGBS as partial replacement of cement. The tests conducted for workability of concrete are slump test, compaction factor test and Vee-bee consistometer test. The variation of slump values, compaction factor values and vee bee seconds.

Slump, compaction factor and vee bee values for control concrete and concrete made with fly ash and GGBS as partial replacement of cement Table.4: Graph shows vee bee seconds for control concrete and concrete made with fly ash and GGBS as partial replacement of cement.

Table.5

Mix	Slump (mm)	Compaction factor values	Vee bee sec
M5	150	0.94	7
M6	155	0.96	8
M7	160	0.96	7
M8	130	0.94	7
M9	155	0.95	8

Conclusion And Recommendation

1. Incorporation of Fly ash and GGBS as a partial replacement of cement in concrete gives good results in both fresh and hardened state.
2. In low volume replacement Mix M2 (20%Fly ash +20%GGBS+60%OPC) gives good workability and strength.
3. In high volume replacement Mix M7 (40%Fly ash+20%GGBS+40%OPC) gives good workability and strength

5. Making concrete with the combination of Fly ash and GGBS and cement with different percentages gives good results compared to control concrete. So the best way to use these materials is in combination.
6. Due to environmental issues in the production of cement, industrial by products like fly ash and GGBS are used as supplementary materials in concrete and it saves cost of production of concrete, and makes it eco-friendly.

EXHIBITION ON SEEDS OF HOPE

Bharat SokGakkai, (BSG) is the Indian affiliate of SokaGakkai International (SGI), a global association of grassroots organization working to promote peace and respect for all through the medium of culture and education, have organized an exhibition the “Seeds of Hope – Visions of Sustainability – Steps toward Change” in association with the Department of Civil Engineering, Sona College of Technology, Salem.

The exhibition will be inaugurated on the Sunday, 24th June at 4 pm in the premises of Sona College of Technology at PG auditorium hall. The exhibition will be opened to the public at free of cost from 25th June to 30th June between 10 am and 6 pm at CV Raman hall, Sona College of Technology, Salem.



Lightning of kuthuvilaku by Dr.R.Malathy at Seeds of Hope Exhibition.

This exhibition is the joint venture of SokaGakkai International (SGI) and

the Earth Charter International. The SGI is a socially engaged network which promotes Peace, Culture and Education with 12 million members around the world. Dr.Daisaku Ikeda is the President of SokaGakkai International, a multifaceted personality as an author, photographer, poet, philosopher, Peace builder, educator and the recipient of 365 Academic Awards and Honorary doctorates from institutions and universities around the world.

ORIENTATION PROGRAMME BY CIVIL DEPARTMENT

Orientation programme was arranged to Second year Civil students in order to align them with department activities and aware of online courses on 11.7.18. The talk was arranged for Second year Civil engineering students in APJ Hall, from 11.00 A.M-5.00 P.M.

Faculties involving in academics, placement, internships, co-curricular activities, and curriculum and syllabus formation are participated in the event to enlighten the students with the introductory note along with the information about their roles. Around 125 students attended the workshop along with 3 staff members. First session was started with the concept of “Stress management” by Students Counselor of the college Ms.SreeKutty and delivered the tips to overcome the stress encountered in day to day life of student and took the session in lively way.Dr.GulshanTaj, Academic Coordinator explained the importance of different online programmes and professional bodies available for the students and benefit of the courses in their career in addition to way for placement opportunities. Prof. Meenachi, Career Co-ordinator explained the different verticals offered by the department and various

opportunities prevail in the department to mould their career. Followed by Prof.Manikandan explained the choice of elective subjects and procedure to drop the electives in their semester periods. Prof.Saranya informed the various internship and inplant trainings undergone by senior students and the benefit of such training to acquire job. At the end of the session, senior students from various backgrounds like ICI and IEI chapter chairman, sports, extra curricularactivities, club activities shared their experience and benefit they extracted from the same. They advised the juniors to involve in any one of the activity of their choice.



Prof.A.Meenachi, Career coordinator speaking about requirements of employability

MOTIVATION TALK

Motivation talk was delivered to students on the topic of “Motivation and Mind power” on 26.7.18. The resource person for the guest lecture was Mr.K.Parivallal, CEO, DNW CNC Training Division. Around 110 students attended the workshop along with 4 staff members. Confidence and hardwork is the best medicine to kill the disease called failure.

It will make the students as successful persons in their professional life. In todays scenario motivation and mind power are the essential part and parcel of every students life in lieu of technological diversions like mobiles and other medias. Chief guest addressed the gathering about mind power and control with simple



Mr.K.Parivallal, CEO, Delivering lecture on motivation talk

illustration related with practical life. He also emphasized the concept “Discover the diamond in you” with vedio narrations and many case studies.

He also pointed the many real case studies and one of the case study was about Mason training programme conducted regularly in Ramakrishna Mission, Coimbatore where the poor/orphanage children are trained to improve their livelihood.

DST-SERB SPONSORED NATIONAL SEMINAR ON “GEOTECHNICAL ASPECTS OF EARTHQUAKE ENGG.”

The workshop, DST-SERB SPONSORED NATIONAL SEMINAR ON “GEOTECHNICAL ASPECTS OF EARTHQUAKE ENGINEERING”, invited speakers from IISc Bangalore, Formerly IIT Roorkee, IIT Madras, Anna University, Chennai and also from Industry situated in India.

9th August 2018, Dr. S. R. R. Senthil Kumar (Principal, SCT), Dr. K. Jagadeesan (Dean, PG, SCT), Dr. R. Malathy (HoD/Civil Engineering) and Dr. G. Ramasamy (Professor(Formerly IIT,Roorkee)), addressed the gathering. Later on the day, Dr. G. Ramasamy engaged students by explaining the basics terminologies, and quantitative analysis of liquefaction with a case study –Assessment of Liquefaction potential on a 7 Storey Residential Building at IIT, Roorkee. Dr. A. R Prakash, an Assistant Professor at

tectonic plates movements and consequences due to which an earthquake occurs. Following him, Mr. Muthukumar, Sr. Manager, Chrisvin Geomet Services Pvt. Ltd., demonstrated his instrument in Earthquake seismology. Final lecture session was handled by Dr. S. T. G. Raghu Kanth, Professor/Civil, IIT Madras, Chennai who spoke about Ground Motion and Hazard Analysis. He explained the velocity of earthquake and compared it with the velocity of movement of tectonic plates. He quoted –“The codes we are using for construction of earthquake resistant building are based on old data and should be updated frequently.” The valedictory session was taken by Dr. R. Malathy and gave participants an opportunity to explain various memes and presentations that they had created to be presented on the stage. Finally, Mrs. A. Shalini, Organising Secretary concluded the Seminar with her thank you speech to all the teachers, participants and the sponsoring team.



Inauguration with chief guest “Dr.G.Ramasamy , Professor(Formerly IIT,Roorkee))

GATE ORIENTATION PROGRAMME



SYED IBRAHIM, In-House Trainer, TIME delivering the career opportunities

An orientation from Time institute, Hyderabad to the third year and final year students about GATE 2019 and its opportunities in higher education and

government sectors (public sector) like BHEL, SAIL, ONGC etc was given. The methodology of exam pattern and preparation importance was oriented.

GUEST LECTURE ON REAL ESTATE PROJECT PRACTICE

A Guest lecture on Real Estate Project Practice was organized to enrich the students' knowledge in future career.

Dr. Depak Muniraj, B.E(Civil), MBA, Project Engineer, Sobha Limited kindled the young's minds by delivering the future career options after civil engineering like Higher study options, Various government jobs and their eligibility criteria, Various private sector jobs - work pressure, working hours, salary and job positions, Govt job vs Pvt job, Abroad options and Consultancies and Business options. Guest lecture also covers on Vasthusastra - Is it scientific or not?, How we can prove based on historical examples and scientific reasons, What's the benefits of vastu, Why clients preferring vastu compliant flats?, What's the remedy if vastu is not there in the flats?. Students were benefited and interacted with resource person. Also Depak Muniraj shared his nonprofit training institute "Dr.Depak Muniraj Academy" to guide and train the fresh civil engineers and real estate customers the right way in the real estate industry as a service to the civil engineering community.



Dr. Depak Muniraj, Project Engineer delivering lecture on vastu

INTERACTION PROGRAM ON UNBONDED POST-TENSIONING SYSTEM

Interaction session was arranged with distinguished foreign professor Dr. Sivakumar Munuswamy independent advisor and adjunct faculty Florida Atlantic University, USA for faculty members and PG structural Engineering students in civil department seminar hall on 29.08.2018 at 11:30 AM.

Dr.Sivakumar Munuswamy discussed unbonded post-tensioning system. He interacted with students and faculty about the methods used in post-tensioning. He explained about the profile of tendons based on the support conditions of the structure. The Advantage of post-tensioning system was explained clearly based on his field experience. Then he shared the different types of post-tensioned projects done by him. He cleared all the doubt arises by the faculty and student about post-tensioning pre-stressed concrete. Faculty members interacted with him and got his valuable feedback for their research works.



Dr.Sivakumar Munuswamy, discussing with students on unbonded post tensioning system

ACE-2018 & ACHIEVER'S DAY 18

ACE 2018- 2019 Association of civil Engineering an Intra department technical Association, was inaugurated by our Civil Engineering department, Sona College of Technology on 29th August, 2018 at PG Auditorium in the presence of Management, students and faculty members of Civil Engineering Department.

Our chief guest was Mr. A. Vijuvin, I.R.T.S, senior divisional Commercial Manager, Southern Railway, Salem Division.

They gave an inaugural address to gathering. Also, we have invited the guest of honor as alumni Mr. S. Salim Jaffar, Planning Engineer, Tecton Engineering and Constructions, Qatar. He shared his Life Experience in Sona as speech. The welcome address by Dr.R.Malathy, HOD of civil Engineering department, SCT. The inauguration was felicitated by Dr.M.Dhanusu, Director, SBIC, SCT. The introduction of office bearers and association activities were given by Mr. C. Thinakaran, Student chairman -ACI. Followed by that students were appreciated for their Achievements by distributing awards to them. The Civil Engineering association inaugural and achievers day celebration program were coordinated by Prof. K.PRAKASH, Assistant professor, Department of Civil Engineering.



Sushil Pd. Chaurasiya receiving Student of the Year award from Mr. A. Vijuvin, Senior divisional Commercial Manager, I.R.T.S

ICI EVENTS

The ICI student chapter of Department of Civil Engineering organized events like "Master Builder" and "Detect It" for the exhibition of student talents on technical skills on 29th August 2018.



Student participant at Detect It

In Master Builder, students are provided with chopsticks and glue to build two floor truss structures. The framed structures are tested for the maximum weight carried by them. In Detect it, the students wrote technical report about "Kollidam Bridge Collapse". Reports are evaluated for technical content and narrating skill. Around 200 students participated.

SKILL DEVELOPMENT PROGRAM

The ICI student chapter of Department of Civil Engineering organized one day workshop called as "Skill Development Program" on 30th August 2018.

This program is handled by technical manager Er. Murugan, UltraTech Cement Ltd. During the training, following aspects are covered, Introduction about cement and concrete, construction materials (Cement, sand & Blue metal), how to make good and quality concrete, tips for good construction practice and good construction practice for masonry & plastering. In hands on session, effect of admixtures on M-Sand in mortar is evaluated. Around 50 students make use of this program. Around 20 masons also have participated and shared their knowledge with students.



Students and mason participants with technical team of UltraTech Cement Ltd.

DRONA '18

Civil Engineering students organized DRONA 2k18. It is celebrated in account of TEACHER'S DAY.

This event is organized for appreciating every teaching and non-teaching faculty contribution towards teaching and guiding.

Teacher's day is celebrated all over India by awarding them for their teaching efforts. It was a grand event organized by final year students with help of III year and II Year UG Students. On this Drona '18 students awarded Principal, Head of the department, Professors and Assistant professors. Is teachers day is for those who got degree and professionals, not at all those who teach anything with their experiences is also teacher. On regarding the phrase on Drona '18 students awarded every non-teaching staff in our civil department.



Teachers Day Celebration by Civil Faculty

CONCRETE DAY CELEBRATION

The ICI student chapter of Department of Civil Engineering tends to celebrate concrete day on 7th September every year. On 7th September 2018, the concrete day is celebrated with special lecture on "Concrete Technology".



Er.S. Jegadhesan interacting with students about IS Mix Design

This lecture was given by Er.S. Jegadhesan, Dy. Manager-Technical Services, the Ramco Cements Ltd. He elaborated on mix design by IS method and quality control of concrete in field. Students participated were more interactive and clarified many doubts with the resource person. About 70

students attended the lecture. Er.S. Jegadhesan was honored by Dr. R. Malathy, HOD/Civil.

RAMCO CONCRETE CONTEST

The Ramco Cements Ltd conducted concrete contest in association the ICI student chapter of Department of Civil Engineering on 14.09.2018 & 15.09.2018. Around 70 students participated in the contest.

Previously the students are given awareness about IS mix design by Er.S. Jegadhesan, Dy. Manager-Technical Services, the Ramco Cements Ltd. Preliminary test is conducted for the students and 25 students out of them are selected for next round. The 25 students were grouped into 5 batches to design concrete mix on their own. The batches were evaluated based on the mix proportion, fresh concrete properties, weight and compressive strength of concrete. The winners of the event were motivated with shield and certificates.



Concrete Casting by student at Ramco Concrete Contest

GUEST LECTURE ON "INTRODUCTION TO MICROWAVE RADAR SENSING AND ITS APPLICATIONS"

Guest lecture was delivered to students on the topic of "Introduction to microwave radar sensing and its applications" on 14.9.18. The talk was arranged for Second year Civil engineering students in C.V.Raman Hall, from 11.00 A.M-1.00 P.M.

The resource person for the guest lecture was Dr.Shoba, Research Assistant Professor, SRM Institute of Science and Technology. Around 68 students attended the seminar along with 2 staff members. The workshop is started with introduction of Chief Guest by Dr.GulshanTaj, Academic coordinator. Guest lecture started with basic introduction about remote sensing and its definition in different perspective. Different sensing methods like optical, thermal and microwave radar sensing is explained along with the basic principles. Definition about azimuth and range of microwaves are explained with neat sketches. Different satellites launched for extracting information about earth are explained with more emphasis on RISAT satellite using C band. Different bands in microwaves and their proper usage for different applications is explained. Principle of microwave remote sensing with backscattering is shown with appropriate sketches. False color composites is explained for different feature details such as vegetation, river, and other bodies in earth. Various reflectors used in sensing operations are explained in detail along with detail introduction about interferometry. Various techniques like altimetry, polarimetry, scatterometry and interferometry are told in detail with proper usage in different application areas. Finally scope of different projects in this area are listed out.



Dr.Shoba delivering lecture about remote sensing and its applications

INDUSTRIAL LECTURE ON EARTHQUAKE RESISTANT DESIGN

Department of civil engineering organized a guest lecture on the topic of "Earthquake resistant design and detailing using ETABS, SACs and TEKLA software" on September 15, 2018, we invited Mr.MADHANESH GANESAN (Petronash Engineering Services, Structural Engineer, Chennai) as a resource person for Guest lecture.



Mr.Madhanesh Ganesan, Structural Engineer explaining about softwares in civil

It has been arranged to enhance the student's knowledge in earthquake design of structures. All the final year students of Civil Engineering attended the lecture at the PG Auditorium in Sona College of Technology. The lecture deals with the software applications for earthquake design and practical seismic oriented design of power plant steel structures including boiler buildings, coal conveyor system etc. It was highly useful to the students in the seismic design of structures. There was a very good feedback from the students and it is appreciated.

INTERACTION SESSION ON PRECAST PANELS

Interaction session was arranged with distinguished foreign researcher Altaf Halil, AMIAE(SL), AMIMI (UK), Director, Researcher, Triumphal Trading & Consultancy Service (PVT) LTD, Colombo, Sri Lanka for faculty members and PG structural Engineering students in civil department seminar hall on 24.09.2018 at 10.00 AM

AltafHalil discussed precast panels. He interacted with students and faculty about the importance of aggregate grading in the precast panel construction. Precast concrete panels expanded across the globe and become a staple of modern construction. He explained the quality of materials used in the construction of panel. The percentage of aggregate and its role in concrete and its importance in mineralogy to use it in construction to achieve desirable strength were discussed. Advantages of precast construction and its adaptability in construction along with cast-in-situ construction and its joining were discussed. He also explained about prestressing concrete, tendons and anchorage.

The job opportunities in Srilanka were explained. The motivation and self-confidence about our technical and practical explanations were given. The real-time job opportunities and experience needed in brand core companies were clearly explained. He cleared all the doubt arises by the faculty and student about precast construction. Faculty members interacted with him and got his valuable feedback for their research works.



Distinguished Foreign Researcher Altaf Halil, clearing up job opportunities in Sri Lanka

GUEST LECTURE ON PROFESSIONAL ETHICS ON GLOBAL ISSUES

A guest lecture on "Professional ethics on global issues" was conducted on 28.09.18 at Edison hall between 10 a.m and 1.00 p.m.Mr.C.Ganapathy, Retired Engineer in PWD, Salem was

the resource person. Third year Civil Engineering students were benefitted out of this lecture.

It covered a part of Unit-5 of the course Professional Ethics and Human Values. The topics concentrated in the lecture were Globalization, Multinational Corporations and Technology transfer. Many live examples were quoted by the speaker which made the students interact well during the lecture.



Prof. Mr.C.Ganapathy delivering lecture about globalization

GUEST LECTURE ON "CONSTRUCTION MANAGEMENT"

Every Year Department of Structural Engineering and Department of Construction engineering and Management jointly organize orientation program for first year PG students on 28.09.2018. Dr.S.R.R. SenthilKumar, Principal/SCT, gave speech about how to equip to meet the requirements of employability.

Dr. R.Malathy, HOD/Civil, elaborated about various kinds of activities that conducted for the students. This orientation program is enriched by a special lecture on "CONSTRUCTION MANAGEMENT" delivered by Er. V. Sriram, CEO, Prayojana Institute. The lecture was about the importance and difference of construction management and project management. An insight about the Value Engineering and its importance was given. Construction management is an art of managing a project effectively using the skills and knowledge of the manager. The manager has to have capabilities to

provide the solutions for the risks faced. Whereas, the project manager has to effectively control and manage the total project. Types of risks faced during the execution were discussed. The relation between clients, project manager, construction manager and the contractor were discussed. Dr. M.N.A. GulshanTaj told about research facilities, Prof. Saravanan told about placement activities and Prof. M. Arivoli elaborated about various professional body activities.



Er. V. Sriram, CEO, Prayojana Institute delivering lecture on construction management

"KATTIDAM 2K18"

Sometimes you just need a little spark to help you to come up with flying colours. Civil engineering department of "SONA COLLEGE OF TECHNOLOGY" on 13/10/2018(Saturday) organised a Seminar on "PAINTS" in the morning session and a build expo "KATTIDAM 2K18" in the afternoon session to second year students sponsored by Nippon Paints.

The main objective of the programme is not only to conduct the expo but also to make the students get into the direct contact with the shopkeepers/dealers to obtain the knowledge of the product with proper checklist, composition, properties and testing, marketing, relevant codebooks of the product and to take remedies to build interest in it. At 4pm Dr.R.Malathy, Head of the Department of civil engineering delivered the welcome address and the guests were Er. R. Balamurali (Business development manager),

Er.D.Manikandan (Sales Head), Er.Elamvaluthi (Assistant Manager- Technical sales support) NIPPON PAINTS, Salem addressed the students about the innovation in civil engineering and their future scope.



Display of building materials by students

CORE-2018

CORE 2K18 as always; it was organized by the department of civil engineering in Sona College of Technology by the students of final year under leadership of students chairman Mr. C. Thinakaran. This year, however, CORE came with a little twist in its theme which is the need of the hour i.e. going completely paperless and plastic-less. Avoiding the use of paper and plastic products completely wasn't an easy task in the beginning but despite this fact, the event achieved a huge success and the organizers of core were able to set a record that will indeed be remembered for years in the history of SONA.

The history that was made by the students in core will be remembered for the various milestones they had targeted and achieved. In order to go paperless, students of Sona had to completely rely on some sort of digital method for almost every activity that were scheduled and executed in CORE. From getting permission letter to the passing information to the participants, form marketing to analyzing the participants daily scores, everything were done digitally, for which, they introduced a website, www.core2k18.squarespace.com,