

Dr. M.G.R EDUCATIONAL AND RESEARCH INSTITUTE





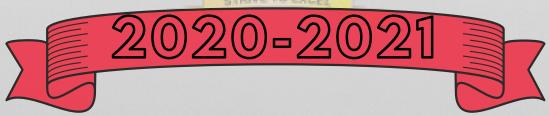
(Deemed to be University with Special Autonomy Status)

Accredited by NAAC with 'W Grade (CGPA 3.31 for 4 point scale)

An ISO Certified Institution

DEPARTMENT OF CIVIL ENGINEERING









ABOUT THE UNIVERSITY

Aiming to bring about change and progress through education, the Tmt. Kannammal Educational Trust was constituted in 1985 and started Thai Moogambigai Polytechnic Collage. Within three years of its inception, Dr .M.G.R Engineering collage was founded in1988, and the Thai Moogambigai Dental Collage inception, Dr .M.G.R Engineering collage was founded in1988, and the Thai Moogambigai Dental Collage was started in the year 1991. Both the collages acquired Deemed university status in 2003 as Dr. M.G.R. Educational and Research Institute as per the orders of the University Grants Commission, New Delhi and the Union Ministry of Human Resources and Development, Government of India, New Delhi.

The 21st century poses a lot of challenges that could be overcome with the help of Education and Technology, Keeping this in mind Dr. M.G.R. Educational and Research Institute University was started with a vision of providing a better foothold for the students of today to face the challenges. To succeed in the world today you more than just Academics. The modern adults is expected to have a combination of technical Know-how and ambitious confidence. Being aware of the demand that is placed on the youth today, Dr. M.G.R. Educational and Research Institute University has preserved to nurture and groom young men and women through Engineering, Medical, Dental and Humanities and Sciences.



FROM THE PRESIDENT'S DESK



THIRU A.C.S ARUN KUMAR B.TECH (HONS.), LMISTE, MIET (UK), LMCSI

I am delighted to know that the Department of Civil Engineering of Dr. M.G.R Educational and Research Institute University is publishing a Technical Magazine "CONTOUR - 2020 - 2021"

I hope that this magazine will emerge out well and help people know more about the times. I wish all the success for the magazine.

ER. A.C.S.ARUN KUMAR



FROM THE VICE CHANCELLOR'S DESK



PROF. DR. S. GEETHALAKSHMI VICE-CHANCELLOR

It is indeed a matter of great happiness to and that the Department of Civil Engineering at Dr. M.G.R. Educational & Research Institute University proposed to publish its Technical Magazine CONTOUR-2020 - 2021.

A Technical Magazine such as this is required for growth and progress of departmental activities, including publishing articles, papers, research activities etc. I am sure that this type of publishing technical magazine will prove its mettle by providing an opportunity for bringing out the writing talent which bears immense potentiality of sharpening Students' communication skill as part of their over all personality development and also will direct their creativity to new dimensions of mature expression.

I congratulate all the contributors and the editorial board for bringing out such a technical magazine.

PROF. DR. S. GEETHALAKSHMI



FROM THE RECTOR'S DESK



PROF DR. D.VISWANATHAN RECTOR

It gives me great pleasure and so I extended my hearty congratulations to the Department of Civil Engineering for publishing Technical Magazine, "CONTOUR 2020 - 2021". An Expression of ideas and opinions through "CONTOUR" article shoes our student's level of thinking and their high ability to learn from their surroundings.

My best wishes to the Department and editorial team for their dedication in making this magazine a reality. I hope this magazine continues to grow and represent the achievements of Dr. M.G.R Educational and Research Institute University and Civil Engineering Department.

PROF DR. D.VISWANATHAN



FROM THE REGISTRAR'S DESK



DR. C.B. PALANIVELU REGISTRAR

Civil Engineering, one of the oldest Engineering, is a profession which has several related disciplines that deals with the design, construction, and maintenance of the built environment, including works like roads, bridges, canals, dams, and buildings.

It gives me great pleasure that Department of Civil Engineering is bringing out the Technical Magazine, "CONTOUR 2020-2021" to serve the Students, Faculties and Research scholars of our university and other institutions by giving them latest and technical matters related to Civil Engineering.

I am sure that this will create awareness and bring out innovative ideas about the enormous applications of Civil in the field of Engineering and other related disciplines.

At this juncture I congratulate every one for their team work to bring out this

Magazine.

DR. C.B. PALANIVELU



FROM THE JOINT REGISTRAR'S DESK



DR. T. FELIX KALA JOINT REGISTRAR STUDENT AFFAIRS

I wish you all a safe and successful year 2021. This magazine is our symbol of enthusiasm and urge of knowledge in all fields of learning and blend of creativity and talents of our flourishing students. It is also very momentous way of projecting the inexhaustible quench of knowledge of our department,

And also portrays the latest advancements to the blend perfection of knowledge. At the juncture, I hereby take this opportunity to pass my good wishes to one and all of the staff members, Editorial board and student volunteers for their untiring effort to release this sound magazine very successful.

The word "THANKS" is not enough to convey our Department gratitude to our President Er.A.C.S. ArunKumar for his constant encouragement and support to achieve the goals of our department in a successful way.

DR. T. FELIX KALA



FROM THE JOINT REGISTRAR'S DESK



It gives me great pleasure that Department of Civil Engineering is bringing out the Technical Magazine, "CONTOUR 2020-2021" to serve the Students, Faculties and Research scholars of our university and other institutions by giving them latest and technical matters related to Civil Engineering.

My best wishes to the Department and editorial team for their dedication in making this magazine a reality. I hope this magazine continues to grow and represent the achievements of Dr. M.G.R Educational and Research Institute University and Civil Engineering Department.

DR.S.ARIVALAGAN



FROM THE HOD'S DESK



I am pleased to know that our Civil Engineering Department is once again successful in bringing their second issue of magazine "CONTOUR" for the academic year 2020-2021.

The most important aspect we could derive from this stupendous effort is that it brings out the various technical and analytical skills of the budding engineers.

I also applaud the coordination and efforts behind the team to bring out this issue.

I wish them all success. Further 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 endeavours.

DR.T.KAVITHA



DEPARTMENT OF CIVIL ENGINEERING

INTRODUCTION

Department of Civil Engineering was established in 2002 and has been a part of university since its inception. The Department has grown over the years and recognized as one of the major engineering department in the country. The Department has developed strong links with various industries, academics and research, both within and outside the country. Besides high quality teaching instruction for both UG and PG levels the department has organized various the national and international level of conferences, symposiums and workshops. The department of civil engineering with its multifaceted faculty continues to maintain and cultivates the talent among young engineers.

VISION

To achieve the pinnacle of success in the area of sustainable constructions and green technologies, thus stimulating economic growth and making the society a better place to live in.

MISSION

- To produce graduates who possess technical competence in their chosen specialty area of Civil Engineering with integrity and commitment.
- To prepare them to serve and contribute as innovators, professional engineers, and leaders in the global community.



QUALITY POLICY

The department strives to establish a system of quality assurance to continuously address, monitor and evaluate the quality education offered to students and to promote an effective teaching - learning process for the benefit to transform the institution into a Centre of Excellence in Engineering and Technological studies

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

The Educational Objectives of the Civil Engineering program are designed to produce skilled Engineers who could effectively contribute to the Civil Engineering profession with an ability to meet its current and future challenges.

To apply fundamental technical knowledge and skills to find creative solutions to technological challenges and problems in various areas of basic sciences and engineering.

To analyze, design and use skills in order to formulate and solve Civil Engineering problems.

To practice Civil Engineering in a responsible, professional and ethical manner and implement eco-friendly sustainable technologies for the benefit of industry and society.

To create knowledge through research and development in Civil Engineering and allied fields and modernize the teaching levels.

To make students professionally competent by enhancing their communication skills, team spirit, leadership and also to prepare them for lifelong learning through innovative and research activities.

PROGRAM OUTCOMES (POS)



- Understanding the fundamentals in the Engineering field
- Creation of an ability to develop problem solving attitude
- Designing, implementing the current technology and performing and conducting experiments by changing the parameters and interpreting the results
- Development of the environmental knowledge through innovative ideas by using current technology
- Facing the problem in the society and solving them
- An ability to understand the environmental impact and sustain in the environment
- Understanding legal, security and social issues and responsibilities
- Working in team thereby exploring multidisciplinary talents
- Communicating effectively in the societal activity such as public speaking, in conference etc.
- Developing interest in the individual to have an open mind to learn and accept things in the entire life
- Applying the software skills, managerial skills, for the industrial issues and also an ability to manage the finance

PROGRAM SPECIFIC OUTCOMES (PSO)

The Specific objectives of the Civil Engineering program are designed to produce skilled engineers who could effectively contribute to the Civil Engineering profession with an ability to meet its current and future challenges. The Civil Engineering department is committed to produce Civil Engineers with the potential:

- To apply fundamental technical knowledge and skills to find creative technological solutions
- To function as an individual or in a team to find solutions for civil engineering problems of multi disciplinary nature in the context of environmental and sustainable development.



DEPARTMENT FACULTIES

Dr. Felix Kala T Ph.D Dean(E&T)/Professor **HOD/Professor** Dr. Kavitha T Ph.D **Professor** Dr. Arivalagan S Ph.D Dr. Narayanan RM. Ph.D **Professor** Dr. Sankaran S Ph.D. Professor Dr. Muralikrishna M Ph.D **Professor Professor** Dr. Reddy Babu G Ph.D Dr. Renganathan A Ph.D **Professor Professor** Dr. Sekaran V Ph.D Professor Dr. Vijayakumar H Ph.D Professor Dr. Balamurugan R Ph.D **Professor** Dr. Ganesh Babu K V Ph.D Dr. Rajesh Kumar V Ph.D **Professor** Dr. S Charles Ruskin Kumar Ph.D **Associate Professor** Dr. SethuramanV.S. Ph.D **Associate Professor** Dr. Sudhakar R Ph.D **Associate Professor** Dr. Rajesh C.N Ph.D **Associate Professor** Dr. C Manikandan Ph.D **Associate Professor** Dr. Arivumangai A Ph.D **Asst Professor** Dr. Narmatha M Ph.D **Asst Professor**



DEPARTMENT FACULTIES

Dr.Lekshmi Mohan Ph.D Asst Professor

Dr.A.Paul Mahesh Ph.D Asst Professor

Mr. Kalaignan R M.E.,(Ph.D) Asst Professor

Mr.Manikandan M M.Tech.,(Ph.D) Asst Professor

Mr. Ramakrishna D M.S Asst Professor

Mr. Edwin D Thangam M.E.,(Ph.D) Asst Professor

Mr. Mallikarjuna Reddy K M.E., (Ph.D) Asst Professor

Ms. Leela D M.Tech.,(Ph.D) Asst Professor

Ms. Loveley Kumari M.TECH.,(Ph.D) Asst Professor

Ms Gomathi Nagajothy M.E.,(Ph.D) Asst Professor

Ms.Depaa. RA. B. M.E.,(Ph.D) Asst Professor

Ms.E.Rani M.E.,(Ph.D). Asst Professor

Ms. Priyadarshini V M.Tech.,(Ph.D) Asst Professor

Ms.A.Hemamalinie M.TECH. Asst Professor

Mr.P.Jeyakumar M.Tech Asst Professor

Ms. N. Uma Devi M.Tech Asst Professor

Mr.Sivaraman M.E. Asst Professor

Mr.Bill Clinton M.Tech Asst Professor



ACHIEVEMENT OF THE YEAR





Civil Engineering Department has been selected one of the best department among top ten private Engineering institutions in India during the year 2021. The award has been solemnised by The Academic insights, Bengaluru. At this moment, on behalf of the department, we are happy to thank Our Honorable Chairman, Honorable President, Vice Chancellor, Pro-vost, Rector, Pro-vice chancellor and all Executives, Deans and our department faculty members and non teaching staff for their support to make this great achievement.

Thankyou, HOD/Civil Engg.,



ACHIEVEMENTS



Certificate of Appreciation

This is to certify that **Nikhil bharadwaj**

B.tech (2019-2020) Dr.M.G.R Educational and research institute

has successfully completed the online Quiz on "BEAT OFF PANDEMIC" conducted by Dept. of Physics, Ist Year B.Tech. E&T, Dr. M.G.R. Educational and Research Institute, held on 5-7-2020 with the score of 96%.

Dr. N.S. Shubhashree

Dean (E&S)

......

Dr. D.B. Jabaraj Joint Registrar (E&S)









DEPARTMENT EVENTS









Title of the Event: Bridge 2019
(A National level polytechnic meet)
on 14.03.2019















Title of the Event: aakriti 2019 (symposium) on 27.09.2019



WEBINAR



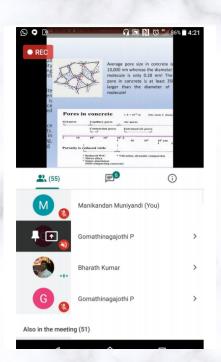


Title of the Event: Micro characterization on hydrated cement paste Chief Guest: Dr.T.Palanisamy, Assistant Professor, National Institute of Technology, Surathkkal, on 24.07.2020 at 11.00 AM. Venue: Online.

The resource person Dr.T.Palanisamy explained about the micro characterization of hydrated cement paste. It was very informative and fruitful for Faculty, Research scholars, PG and UG students. He shared about the basic micro analysis methods in concrete through images, text, videos, etc. At end of the session, he answered the questions posted by the participants in the chat box. The participants gave good feedback about the webinar. Our sincere thanks to our management for giving us the opportunity for conducting this webinar in a very successful manner.

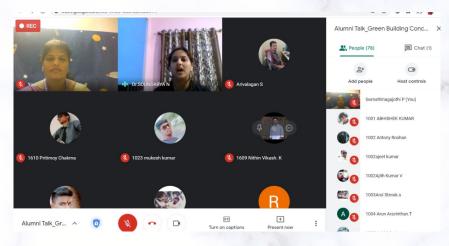






Title of the Event: Technical Talk
(Water Proofing Techniques)
on 03.10.2020 @4:00 pm venue: online

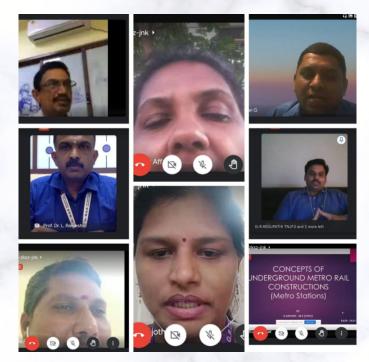




Title of the Event: Alumni Lecture (Green Building Concepts) on 05.10.2020 @6:00 pm, venue: online







Faculty of Engineering and Technology, Department of Civil Engineering,

RISK SAFETY MANAGEMENT IN METRO RAIL CONSTRUCTIONS from 18th to 23rd January 2021, 05.00 pm - 06.00 pm.

Metro projects are extremely-uncertain for the reason that of the natural uncertainties in-ground and groundwater conditions, multiple construction methods and tools. A lot of attempts made to execute risk safety management systems into urban metro rail construction projects. The aim is to construct a new type of model for risk safety management in metro rail projects, to study the existing risk safety management system and to identify the risks that occur during construction and to create, implement, and efficiency of the determine the model for safety in construction of metro rail projects. The factors were identified from the literature study. The questionnaire survey has been framed with the nine risk factors and conducted among the employees working in metro tunnel construction projects, and analysis has been carried out through SPSS software.





Faculty Development Program on Building Information Modeling (BIM) was conducted for faculty by Mr Sri Mahendran, Director of technical team – CADD India on 08.10.2020 through online mode (via Google meet and Team viewer), Department of Civil Engineering at 2.00 pm.

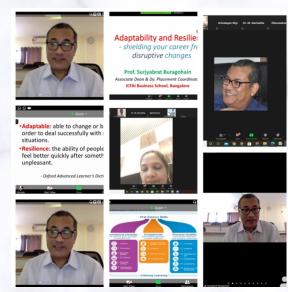
The speaker enumerated that Building Information Modeling (BIM) software which required by every Civil Engineer. He also discussed that BIM is very valuable tool in the field of architecture as well as construction industry.

Mr Sri Mahendran, motivated the faculty that learning something different is always beneficial. Building information modeling (BIM) is a process supported by various tools, technologies and contracts involving the generation and management of digital representations of physical and functional characteristics of places.

The speaker also discussed about the benefits of using BIM software.





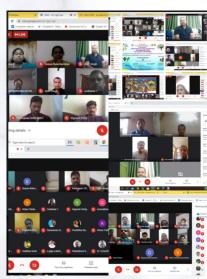


TITLE: "Adaptability and Resilience - How can you shield your career from disruptive changes?"

A brief video about the idea generation, innovation, opportunity evaluation, business model and business planning was presented to the participants. The resource person Prof. Surjyabrat Buragohain explained about the Adaptability and Resilience - How can you shield your career from disruptive changes?". It was very informative and fruitful for Faculty, Research scholars, PG and UG students. He shared about the basic through images, text etc. At end of the session, he answered the questions posted by the participants in the chat box. The participants gave good feedback about the webinar. Our sincere thanks to our management for giving us the opportunity for conducting this webinar in a very successful manner.





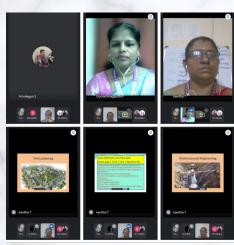


DEPARTMENT OF CIVIL ENGINEERING Organised *Alumni Meet 2020 -Blooming memories* On 18th OCTOBER, 2020 *04:00 Pm to 06:30 PM

The participants had a knowledge sharing session which would help them to discover their employment opportunities. Our Alumni has brought great glory to our institution. They have set the example of being a successful and good human being. They inspire us to have a clear conscience, the courage to speak the truth, and the importance of being authentic. It is an extremely sensitive and emotional event that sparks nostalgia among everyone. This day is very important, it provides an opportunity for everyone to meet each other after so many years. It also provides a chance for every graduate from the previous years to meet their farmer teachers and other staff members. It also helps the alumni to notice the various changes through which the college has gone through over the past few years. Our college has established a tradition to stay with their contacts. To continue the tradition, our college has again organized an alumni meet. Our sincere thanks to our management for giving us the opportunity for conducting this webinar in a very successful manner.

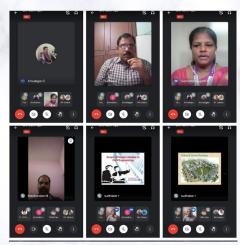






SKILL ENHANCEMENT PROGRAM - STUDENTS - DAY 1 MONDAY, APRIL 26 · 10:30 – 11:30AM





SKILL ENHANCEMENT PROGRAM - STUDENTS - DAY 2 WEDNESDAY, APRIL 28 · 10:30 – 11:30AM





"GLIMPSE TOWARDS CAREER APPROACH" BY
DR.RA.DEPAA.

SKILL ENHANCEMENT PROGRAM - STUDENTS - DAY 3
FRIDAY, APRIL 30 · 10:30 – 11:30AM





" CAREER OPPORTUNITIES AS GEOTECHNICAL SPECIALIST" BY MR.D.RAMAKRISHNA. SKILL ENHANCEMENT PROGRAM - STUDENTS - DAY 4 JULY $1\cdot 12:00~\text{AM}$



" CAREER OPPORTUNITIES AS GEOTECHNICAL SPECIALIST" BY MR.D.RAMAKRISHNA. SKILL ENHANCEMENT PROGRAM - STUDENTS - DAY 4 JULY $1\cdot 12:00~\text{AM}$





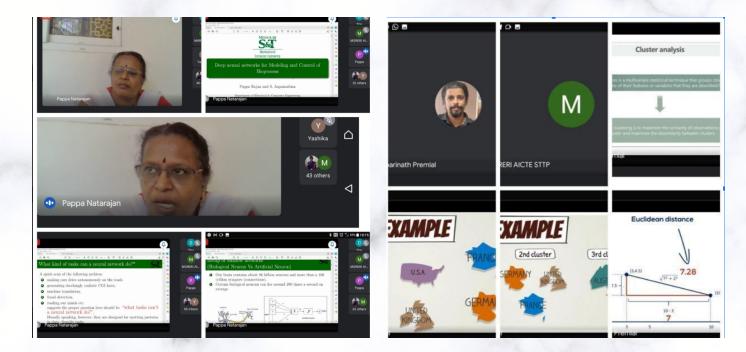
STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES – SERIES

IV FROM 31ST MAY - 5TH JUNE 2021 by EEE, CIVIL and CHEMICAL DEPARTMENT

Faculty of E&T, Dr. M.G.R. Educational and Research Institute, Chennai under the benevolence of our Honorable President sir and Honorable Secretary sir is organizing series of webinars, FDP's and professional talks. We express our heartfelt thanks to Prof.Dr. S.GeethaLakshmi our Vice Chancellor madam for the constant support and guidance. In continuation with programs conducted.

Soft Computing is based on some biological induced methods such as genetics, development, and behavior, the warm of particles, the human nervous system, etc. The journal of Soft Computing has more demand in the International market because this computing work on the real time application areas such as Fuzzy Logic, Expert System, Computational computing, and Artificial Neural network System. Our sincere thanks to our management for giving us the opportunity for conducting this webinar in a very successful manner.





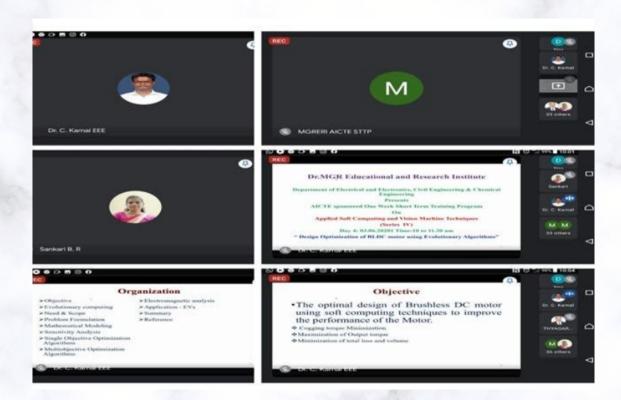
STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES – SERIES IV FROM 31ST MAY – 5TH JUNE 2021 BY EEE, CIVIL AND CHEMICAL DEPARTMENT

In the course of the lecture, we covered various topics like the history of deep learning techniques, the need for deep learning techniques, characteristics of deep learning techniques, and the necessity of deep learning methods. The architectures relating to CNN, RNN, etc., was discussed with simple examples like object recognition and classification. Her lecture concluded with a couple of queries raised by the participants which were answered by the resource person. Our sincere thanks to our management for giving us the opportunity for conducting this webinar in a very successful manner.



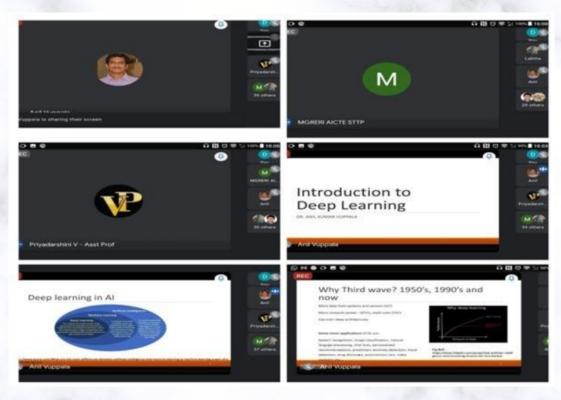


STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES – SERIES IV FROM 31ST MAY – 5TH JUNE 2021 BY EEE, CIVIL AND CHEMICAL DEPARTMENT DATE: 02.6.21

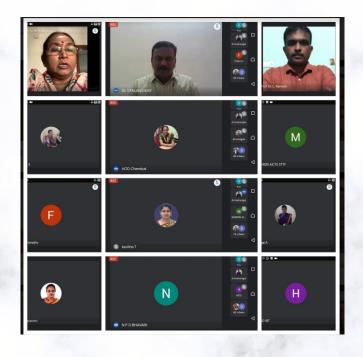


STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE
TECHNIQUES – SERIES IV FROM 31ST MAY – 5TH JUNE 2021 BY EEE,
CIVIL AND CHEMICAL DEPARTMENT
DATE: 03.6.21





STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES – SERIES IV FROM 31ST MAY – 5TH JUNE 2021 BY EEE, CIVIL AND CHEMICAL DEPARTMENT DATE: 04.6.21



STTP ON APPLIED SOFT COMPUTING AND VISION MACHINE TECHNIQUES – SERIES IV FROM 31ST MAY – 5TH JUNE 2021 BY EEE, CIVIL AND CHEMICAL DEPARTMENT DATE: 05.6.21





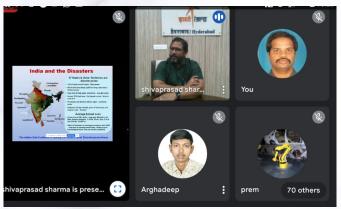


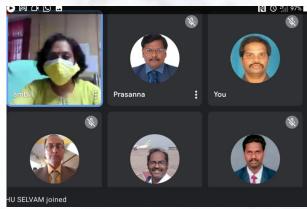
Faculty of Engineering & Technology, Dr. M.G.R. Educational and Research Institute, Chennai under the benevolence of our Honorable President sir organizing awareness series on COVID19 pandemic titled "COWINWEWIN". As part of this awareness campaign, the sessions was organized by the Department of Civil Engineering on 16th June 2021 on the topic, "Debate on Covid'19 - Waste Management".

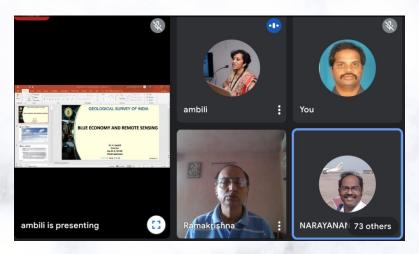
Dr.Manju explained about the nature of waste generated in hospitals and other care centres and Dr.Marimuthu explained clearly about the colour coded bins used for segregation of waste in Health care Sectors. After a detailed discussion on covid waste management, Dr.S.Arivalagan and Dr.T.Felix Kala interacted with the Doctor couple about other general precautions to be followed during this pandemic. Then, Mrs.P.Gomathi Nagajothi, Assistant Professor/Civil threw some light on Bio-Medical waste generation and management scenarios in Tamil Nadu and across India with facts and statistics. After a detailed Q&A session, a formal vote of Thanks was proposed by Magic Association Convener for the department, Dr.M.Manikandan, Asst.Prof/Civil. We thank everyone for their constant support and encouragement.









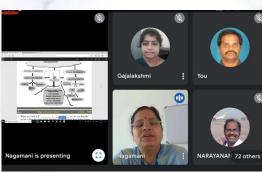


Title of the Event: FDP

(Advancements in Environmental Remote Sensing and Machine learning)
on 21.06.2021 venue: online

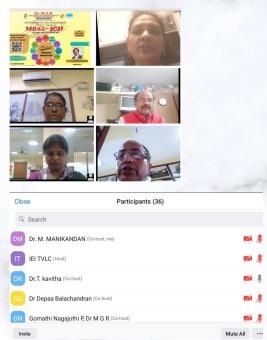






Title of the Event: WEBINAR
(A Talk on Moral and Ethical Values)
on 28.06.2021 venue: online





Title of the Event: BRIDGE 2021
(A National level Polytechnic meet)
on 28.07.2021 venue: online



INTERNATIONAL COLLABORATIONS









WINTER SCHOOL PROGRAM AT ST. PETERSBURG UNIVERSITY - RUSSIA (JANUARY -2019)

Students are fortunate enough to experience the best winter of Russia, as we had the opportunity to attend Winter School Programme at PETER THE GREAT SAINT PETERSBURG POLYTECH UNIVERSITY. The program was completely taught in English, we mainly got to learn the Building Information Modelling, Energy Efficiency of the Buildings and Russian Civilization.

Students experienced the rich culture of Russia, got to see very old Cathedrals along with that had wonderful interactions with different nationalities students who participated along with us on the University campus. This Internship helped me to know my capabilities, pushed me beyond my limits and given the knowledge that a Civil Engineer must know.



INTERNATIONAL COLLABORATIONS









SUMMER SCHOOL PROGRAM AT UNIVERSITY OF TEXAS - USA

The best aspect of the Winter School event was the blend of training styles. The in-class, theory-based training and hands- on, operational training are perfectly balanced - with one week dedicated to each.

As the ISWA and SWIS (Solid Waste Institute for Sustainability) Winter School at the University of Texas at Arlington, together with the cities of Irving, Garland, and Grand Prairie Texas, USA, will had the opportunity to gain knowledge on the potential and challenges of sustainable waste management, including landfill and landfill mining.



DESIGN PROJECT STUDENTS MODEL MAKING









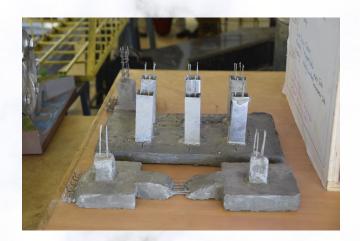






























PLACEMENTS



A.K.ABDUL BAHI
DHANASEKARAN
NANDHA GOPAL
PLACED AT A.G.P RAGAN ASSOCIATES



BINOD KUMAR JAISWAL



MOHAMMED MUZZAMMIL AHMED
Infrastructure engineer
Al-kifah company, Saudi arabia



RAGESH G



ANISH DILIPAN Enterpreneur Ani enterprises



CAMPS & VISITS





SEWAGE TREATMENT PLANT AT KOYAMBEDU





RMC PLANT
AT THIRUVERKADU







CMRL





NIPPON PAINT







POONDI RESERVOIR



