

A Report on
One Day **Virtual International Conference** on
Recent Advances in Engineering, Science and Technology



“ICRAEST-2021”

16 July, 2021

In Association with



Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere, Raigad (M.S.)

AND



International Journal of Innovations in Engineering & Science (IJIES), ISSN: 2456-3463

Organized By



**Godavari Foundation's
Godavari College of Engineering, (NAAC Accredited)
P-51, Dr. Ulhas Patil Nagar, M-Sect., Addl. M.I.D.C., Bhusawal Road, Jalgaon-425003**



(0257) 2213500, 2270451, 2212999

Web Site: www.godavaricoejal.ac.in

ABOUT the institute GF's GCOEJ:

GF's Godavari College of Engineering, Jalgaon (GCOEJ) was started by Godavari Foundation in 1999 to impart quality education in the field of Engineering & Technology. Godavari College of Engineering is just one of the ventures of Godavari Foundation set up by person with high academic record at the behest of very young altruist Dr. Ulhas Patil in 1999 at Jalgaon. College is approved by AICTE, New Delhi; recognized by DTE, Govt. of Maharashtra and affiliated to Dr. Babasaheb Ambedkar Technological University (Dr. BATU – a Maharashtra State Technical University), Lonere, Raigad from 2017. The courses are conducted in the premises having well infrastructure, Computer Labs, Conference halls, Library and other amenities. A Core team of experienced and qualified faculty bears the responsibility to impart knowledge to aspiring students in GCOE. A right blend of Industrialists and Academia from various other colleges, come to professionally train our students. Interaction with eminent personalities in their respective field is a continuous activity at the GF's GCOEJ. In addition to giving them value-added skills, College provides the students with a solid foundation base to strengthen their engineering practical knowledge.

We have various courses in following streams:

Bachelor of Technology (B.Tech.):

Mechanical Engineering (intake-60)

Electrical Engineering (intake-60)

Electronics & Telecommunication Engineering (intake-30)

Computer Engineering (intake-60)

Master of Technology (M-Tech):

VLSI and Embedded Systems (intake-18)

Computer Engineering (intake-18)

Thermal Engineering (intake-18)

Engineering Diploma Courses:

Electrical Engg. (Intake-60)

Mechanical Engg. (Intake-60)

Computer Engg. (Intake-60)

Each course is designed to cater to the requirements of the Industries. The above courses prepare the students for the plethora of experiences that they would face in real life situations in the Technical Industry and entrepreneurial world. Jalgaon, developing as a decent city, with district headquarter, is famous all over India as the center of foremost banana growing area. It has recently acquired the fame as "GOLD CITY" for heavy gold trading and its MIDC has several industries of international repute. The district has been producing intellectual manpower spread not only all over India but through major developed and developing countries in the world.

VISION OF THE COLLEGE:

To develop the Godavari College of Engineering as a center of excellence in technology, where to develop leadership quality, self driven motivated new technical generation of students with right character and good disciplined citizen of India to ensure India to emerge as a most developed nation by 2020, bringing back the ancient glory of India as a creator.

MISSION OF THE COLLEGE:

"Civilization through Technology"

To develop extraordinary technical human resource that can drive India always ahead to keep pace with the development process unleashed by the world technical experts to achieve civilized society of India.

Organizing Council

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About the ICRAEST-2021

One day virtual International Conference on Recent Advances in Engineering, Science & Technology (ICRAEST-2021), academic Year 2020-21 is aimed for interdisciplinary exchange among professionals in the Science, Engineering and Technology sector, ranging from Researchers, Academicians and Business professionals, who are working in this field. This event will also comprise of keynote addresses by experts from leading Institutions and Research Organizations. This unique opportunity that we extend to our speakers and author delegates to abstracts their research in getting global visibility in addition with the networking opportunities before, during and after the conference. The conference is organized in association with Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere-Raigad (M.S) and International Journal of Innovations in Engineering & Science (IJIES), ISSN: 2456-3463 with a CrossRef DOI :10.46335 and SJIF: 5.856. The proceeding of the ICRAEST-2021 is with **ISBN: 978-81-949989-6-9**.

Objectives:

- * This conference emphasizes evidence-based practice, educational innovation, practical application, and peer-to-peer networking.

- * The goal is to provide a transformative professional Development experience through bringing together the world's scientific & technical experts to catalyze the most recent research findings and advance scientific knowledge about Intellectual Advancements in Engineering, Technology.

- * To encourage the delegates for technical writing and presentation based on their original research work.

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ICRAEST-2021 brochure:

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About GF's GCOE:
Godavari College of Engineering (GCOE) was started by Godavari Foundation in 1999 to impart quality education in the field of Engineering & Technology. Godavari College of Engineering is just one of the ventures of Godavari Foundation set up by person with high academic record at best of very young alumni Dr. Ulhas Patil in 1999 at Jalgaon. College is approved by AICTE, New Delhi, recognized by Directorate of Technical Education (DTE) Govt. of Maharashtra and affiliated to Dr. Babasaheb Ambedkar Technological University, Lonere - Raigad (Maharashtra) and NAAC Accredited. The courses are conducted in the premises having well infrastructure, Computer Labs, Conference halls, Library and other amenities. A core team of experienced and qualified faculty bears the responsibility to impart knowledge to aspiring students in GCOE. Right blends of Industrialists and Academics from various other colleges come to professionally train our students. Interaction with eminent personalities in their respective field is a continuous activity at the GCOE. In addition to giving them value-added skills, college provides the students with a solid foundation base to strengthen their engineering practical knowledge. The college is running four engineering under-graduate programs (B.Tech) & three engineering post-graduate programs (M.Tech.) along with two courses in Polytechnic (MSBT, E. Diploma). Each course is designed to cater to the requirements of the Industries. The above courses prepare the students for the plethora of experiences that they would face in real life situations in the Technical Industry and Entrepreneurial world.

Preamble
International Conference on Recent Advances in Engineering, Science & Technology (ICRAEST-2021) Academic Year 2020-21 is aimed for interdisciplinary exchange among professionals in the Science, Engineering and Technology sector, ranging from Researchers, Academicians and Business professionals, who are working in this field. This event will also comprise of keynote addresses by experts from leading Institutions and Research Organizations. This unique opportunity that we extend to our speakers and author delegates to abstracts their research in getting global visibility in addition with the networking opportunities before, during and after the conference. The conference is organized in association with Dr. Babasaheb Ambedkar Technological University (DBATU), Lonere, Raigad (MS) And International Journal of Innovations in Engineering & Science (IJIES), ISSN: 2456-3463.

Who can attend?
The expected participants of the ICRAEST-2021 include Academicians, Research Scholars, UG-PG Students, Scientists, Industry Personnel and grass root innovators.

Objectives

- This conference emphasizes evidence-based practice, educational innovation, practical application, and peer-to-peer networking.
- The goal is to provide a transformative Professional Development experience through bringing together the world's scientific & technical experts to catalyze the most recent research findings and advance scientific knowledge about Intellectual Advancements in Engineering, Technology.
- To encourage the delegates for technical writing and presentation based on their original research work.
- The conference seeks to identify & promote the R&D activities at the individual as well as at the institutional level.

Thrust Areas not limited to:

Track - 1 Electronics & Telecommunication Engg (ID: E&TC-01)
Emerging & Innovative Technology for Digital India and for Make In India, Emerging Wireless Technologies & Networks, Neuro-Fuzzy Systems, Reconfigurable Systems, Bio-MEMS/NEMS, Millimeter Wave Technology, MIMO Systems, Biomedical Sensors & Instrumentation, Cognitive Radio Design, Coding Techniques for 3G/4G, Telemetry & Telecom Management Systems, UWB Systems, Wireless Energy Transfer, DSP, ASIC, SoC, CAD for Very Large Scale Integration (VLSI), Embedded Systems using Arduino, RaspberryPi, Applications using Machine Learning, Artificial Intelligence, Internet-of-Things, Mobile communication, RF Circuit Design, Cryptography, MMIC & CMOS Circuits, Medical Electronics & Bioinformatics, Application in Agricultural Automation Earth Station Systems & Technology, Signal & Image Processing, Airborne Vehicle Communication, Antennas, EMI/EMC.

Track - 2 Computer Science & Engineering (ID: CSE-02)
Distributed Database and System, Computer Architecture and Embedded Systems, Audio, Video and Image Processing, Internet of Things (IoT), Parallel Distributed Computing, Natural Language Processing, High Performance Computing, Computer and Network Security, Data Mining and Warehousing, Algorithms and Optimization Techniques, Software Engineering, MANET and VANET, Grid Computing, Soft Computing, Bio-Informatics and Cyber Security, Web Mining, Information Retrieval, Applications in Machine Learning, Artificial Intelligence and Expert System., Internet and Web Applications, Software Testing and Quality Assurance, Operating Systems, Human Computer Interaction, Query Optimization, Wireless Security System, Information Science and Management, E-Commerce, Data Science.

Track - 3 Mechanical Engineering (ID: ME-03)
Heat Transfer, IC Engine, HVAC, Engineering Mechanics, Green Manufacturing, Corrosion and Reliability, Lean Manufacturing, Advanced Welding Technology, Design of Machine Element, Mechanical Design of Robotics System, Supply Chain Management, Green Supply Chain Management, TOM, Precision Fluid Power control, Refrigeration and Air Conditioning, Theory of Thermal Stresses, Thermal system Analysis, Automobile Engineering.

Track - 4 Electrical Engineering (ID: EE-04)
FACTS, Power System, Automation, Distribution and Generation Technologies, Power Quality and Utility Applications, Power Electronics & Power Devices, Power Transmission, Electrical Machine and Analysis, Energy Development and Management System, Non-Conventional Energy Sources, Renewable Energy.

Track - 5 Basic Sciences & Humanities (ID: BSH-05)
Environmental Pollution Control, Thermo Elasticity Group Theory, Luminescence, Waste and Energy Management, Nano science, Nanotechnology, Green Chemistry and Sustainable Chemistry General Relativity, Dielectric Material, Superconductivity, Synthesis and Characterization of Advanced Materials, Water, Nano-Materials and Nano-Composites, Acoustic, Conducting Polymers, Mathematics Applications in Engineering studies.



Key Dates

Last Date of Paper Submission : 01st July, 2021
Acceptance & Review Notification: 07th July, 2021
Last date of Camera Ready Paper submission with Registration fees : 13th July, 2021
Presentation Schedule display : 14th July, 2021
Int. Conference Date : 16th July, 2021

Paper Submission
Official language of the conference is English. Paper should be in IEEE Paper format (02 columns). The number of pages in paper should not exceed six (A4 size), **Maximum four authors** are permitted per paper and at least one author must register for the conference. Extra page will carry additional charge of Rs. 200/- per page. The received paper will be reviewed and scrutinized by the review committee based on content, originality, significance, quality, clarity & presentation. Kindly mention Track ID and Branch in registration form carefully. Recommended papers by the reviewers shall be published in the conference proceeding (ISBN number is in process) & in Renowned International Journal subject to the acceptance of the paper by the journal.

To register: To get Register fill the Google form & Attach your paper through the link given below: <https://forms.gle/jq5ZayevGh31ZawP6>
After getting acceptance of the paper on Correspondence Author's registered Email ID, Correspondence Author need to send camera ready paper along with the fees paid proof (online transaction slip) on email ID: vicbaudhari@godavaricoejal.ac.in

Registration Fee

1. Delegates from R&D Organizations, Industries & Faculty from Academics:	Rs. 1200/-
2. PhD Scholar, UG-PG students	Rs. 1000/-
3. Foreign delegates	Rs. 18 USD

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Participants will be given Certificate of Participation only after successful presentation of their paper on the Conference day.

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Registration Link - <https://forms.gle/jq5ZnycvGb31ZswP6>

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ICRAEST-2021 Program Schedule 16-07-2021

PROGRAM OVERVIEW	16.-7--2021	FRIDAY	TIME	EVENT
			10.00 AM to 10.05 AM	WEL-COME to all Guests and Delegates Google meet link to join: https://meet.google.com/fei-sivk-viu
			10.05 AM to 10.10 AM	ICRAEST-2021 INAUGURATION Preface - Dr. V. H. Patil, Principal, GF's GCOE Jalgaon
			10:10 AM to 10:15 Am	Launching of ICRAEST-2021 Proceeding By Hon. Dr.UlhasPatil, President – Godavari Foundation, Jalgaon
			10.15 AM to 10.25 AM	Address by Hon. President (Godavari Foundation) Dr. Ulhas Patil
			10:25 AM to 10:30 AM	Vote of Thanks to both
			10.30 AM to 11.30 AM	Keynote Speaker's Introduction by Prof. V. D. Chaudhari, Co-Convener Keynote Address by Dr. S. B. Deosarkar, Professor & Dean-Allumni and Extension Services, Dr. BATU, Lonere - Raigad
				Inauguration Ends, Technical Session Starts
			11:45 AM onwards	ALL TECHNICAL SESSIONS in Parallel Track E&TC-01 Electronics And Telecommunication Engineering Google meet link to join : https://meet.google.com/ttr-nhoa-ung
				Track CSE-02 Computer Science and Engineering Google meet link to joi: https://meet.google.com/dyw-ugpk-zhu
	Track ME-03 Mechanical Engineering Google meet link to join: https://meet.google.com/kvm-mepd-mjj			
	Track EE-04 Electrical Engineering Google meet link to join: https://meet.google.com/gmj-djrh-qzq			
	Track BSH-05 Basic Sciences and Humanities Google meet link to join: https://meet.google.com/rkt-daug-afd			
	Concluding Remark By Session Chair & Valedictory	At the end of Technical Session of Each Track Respectively.		

Registrations...

Registration has been done through online google form link which has been mentioned in ICRAEST-2021 brochure. Also the ICRAEST-2021 fees received through online payment mode at GF's GCOEJ bank account whose details are already been provided through conference brochure.

Total 70 research or survey papers has been received on ICRAEST-2021 email id vdchaudhari@godavaricoejal.ac.in as well as very few are submitted in person. Around 50 papers have been published that are received from throughout the country incl. Uttar Pradesh etc. and research scholars participated from renowned institutes too like DBATU, VJTI etc. Near about 173 participants have participated in ICRAEST-2021 through their research work as well as literature survey papers.

Sr. No.	Paper Track	No. of Research/Survey Papers	No. of Participants
1	E&TC	08	29
2	CSE	08	23
3	ME	18	70
4	EE	10	31
5	BSH	06	20

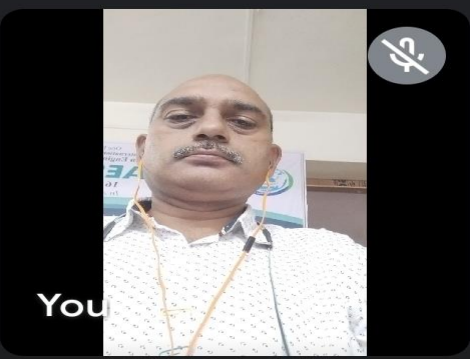
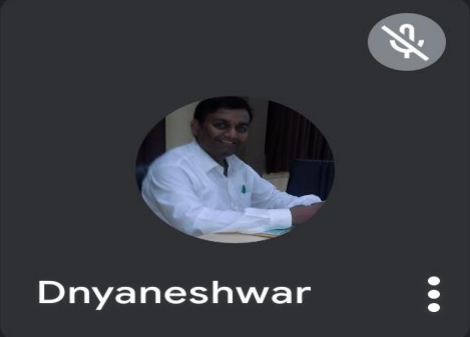
Inauguration...

One day Virtual International Conference on Recent Advances in Engineering, Science and Technology (ICRAEST-2021) was held in GF's Godavari College of Engineering, Jalgaon (GF's GCOEJ), which was scheduled on 16th July, 2021.

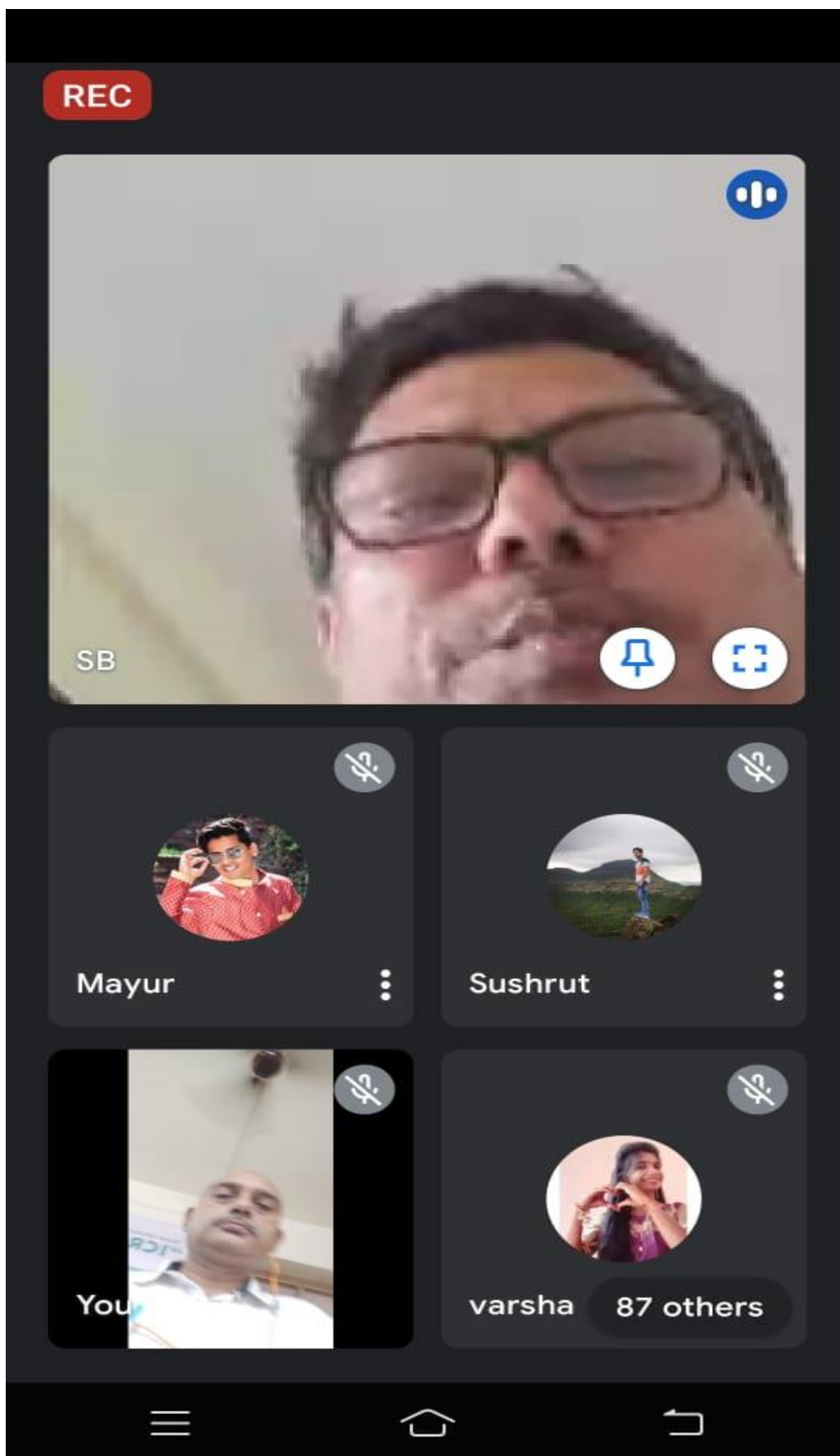


The conference was virtually inaugurated by our respected guest of honor, Hon. President - Godavari Foundation Dr. Ulhas Patil sir and in presence with Dr. S. B. Deosarkar, Professor & Dean (Alumni and Extension), Dr. BATU, Lonere and the Eminent Keynote Speaker, ICRAEST-2021, respected Dr. V. H. Patil - Principal, respected Prof. P. V. Phalak - Vice-Principal, Prof. H. T. Ingale - Convener, ICRAEST-2021 and Prof. V. D. Chaudhari, Co-convener ICRAEST-2021 along with virtual meet (google meet) team.

REC



Keynote address...



Dr. S. B. Deosarkar, delivering his expert talk on the topic: "**Global Perspective towards Skilling and Futuristic Workforce Development**".

In this aspect, the Sustainable Future Economy is focused by giving example of Care economy & Blue economy. It has been come to highlight that in developed countries, the ratio of working robots is 106 behind every 10,000 employees while in India only 4 to 5 working robots. It's worth appreciable that in India around 8 to 10 Lac students prefer to go for higher education.

In Maharashtra highly educated candidates contributes around 15% in GDP. In current scenario, European countries has business of \$40,000 per year in the technical areas like Artificial Intelligence, Data Science and Machine Learning; while our country has business of \$2000 per year in this emerging areas.

To speak on Green economy; the environment, carbon emission and global warming issues has much affected Indian agriculture and farming. From overall \$ 2.6 Trillion economy of India, only 0.6% are spent on research activities and 4% on primary education. This is think because it's contradictory compare to other developed countries. This lacuna should be filled up with very deterministic policies and its really countable that Indian education sector is now improving in that direction. To talk on India's Engineering education, the iconic industrialists should morally come forward and initiate the digitalization of Engineering education. The conventional classroom system seems fall back now due to fast improvements in teaching and learning skills and today's high caliber and high grasping Indian youth. We need to strongly expose the Industry-Institute interaction. Also a need to integrate this with learning of Redesigning to improve the talent quality. We need to improve communication with various related learning groups of our interest. Moreover, the gaming concept should be developed through digital skilling. PPP model can prove to be very much effective in public and private partnership in cultivating liberalization, limited freedom with ethics and globalization to move towards impactful and innovative engineering education in India.

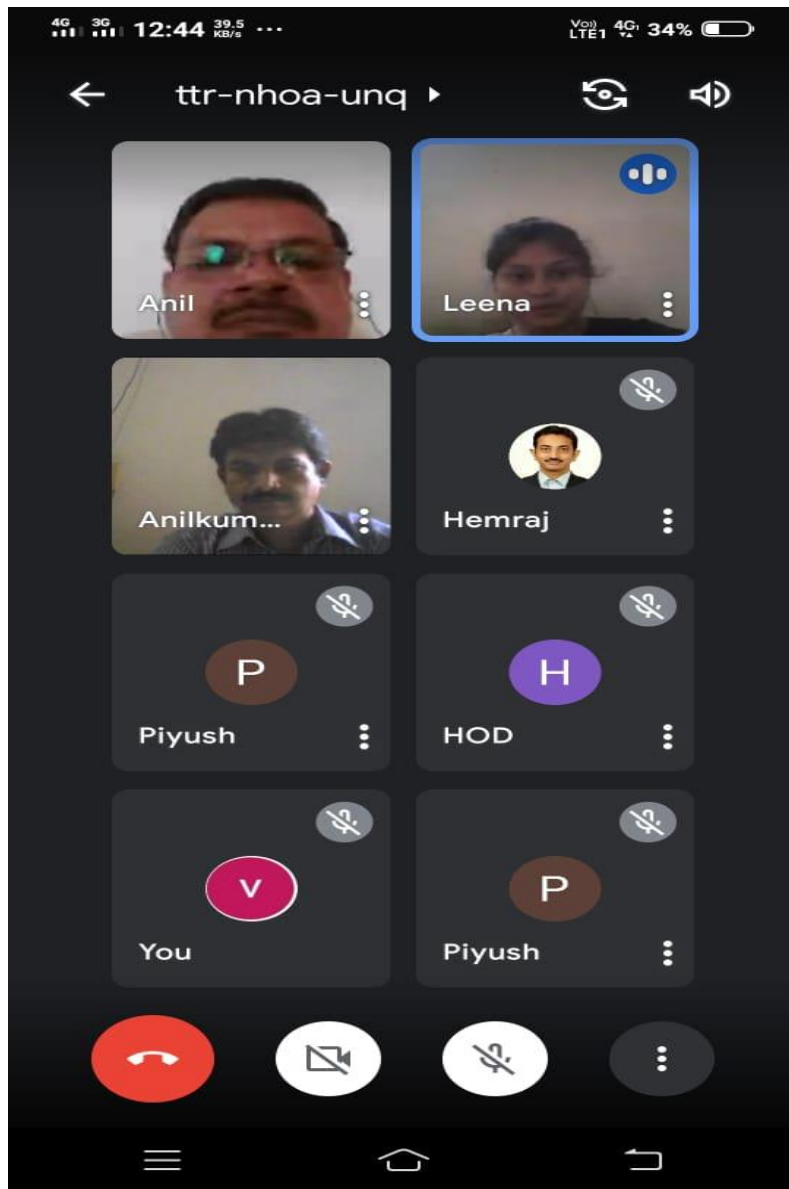
Finally Prof. Vijay D. Chaudhari, the Co-convener – ICRAEST-2021 has concluded with vote of thanks to eminent speaker and participants along with all ICRAEST-2021 committee members who has dedicated their skill for the grand success of the conference.

Technical Sessions...

Sr.No.	Session Chair	Track	Institute & Profile
1	Dr. A. J. Patil	E&TC	Principal, Samarth group's College of Engg., Belhe - Pune
2	Dr. K. V. Bhadane	Electrical	Professor & Head, Electrical Engg dept, Amrutvahini CoE, Sangamner
3	Dr. A. D. Vikhar	Mechanical	Professor, Mech. Engg dept., Govt. College of Engg., Jalgaon
4	Dr. M. E. Patil	Computer	Professor, Computer Engg dept, SSBT COET Bambhori
5	Dr. R. B. Waghulde	BSH	Principal, D. N. College, Jalgaon

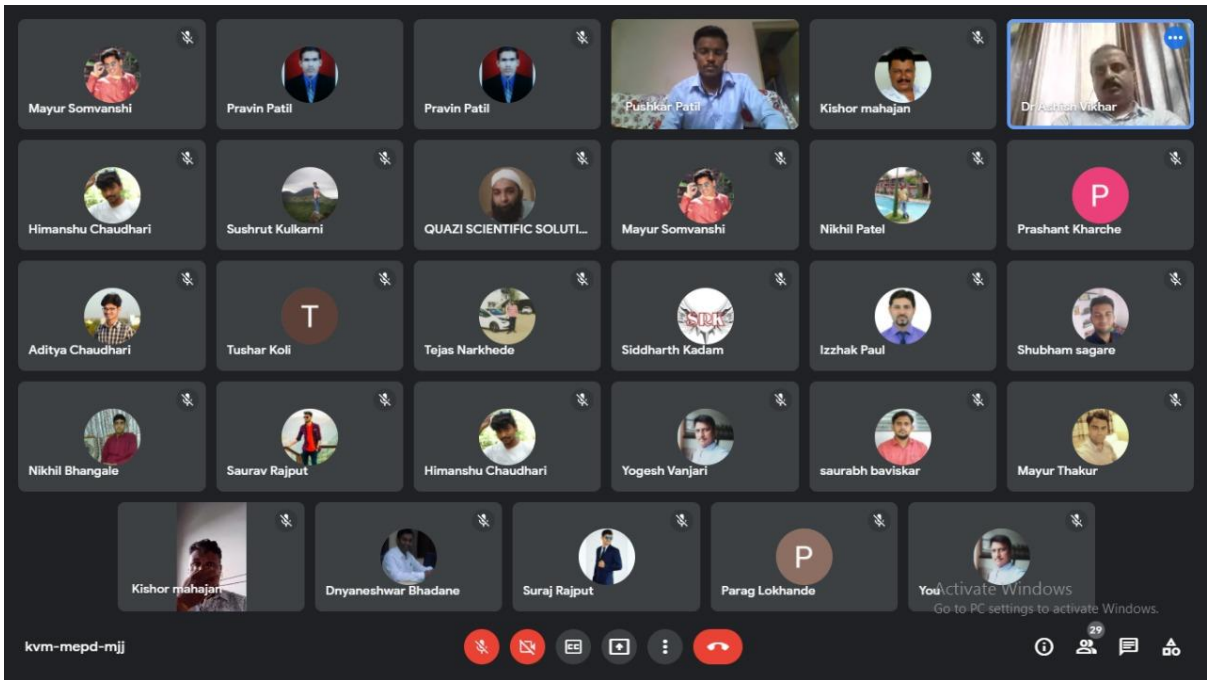
The participants were judged by considering Concept, Content originality, PPT preparation, Presentation of the research / survey paper along with Q & A session.

Technical Session – E&TC Engineering



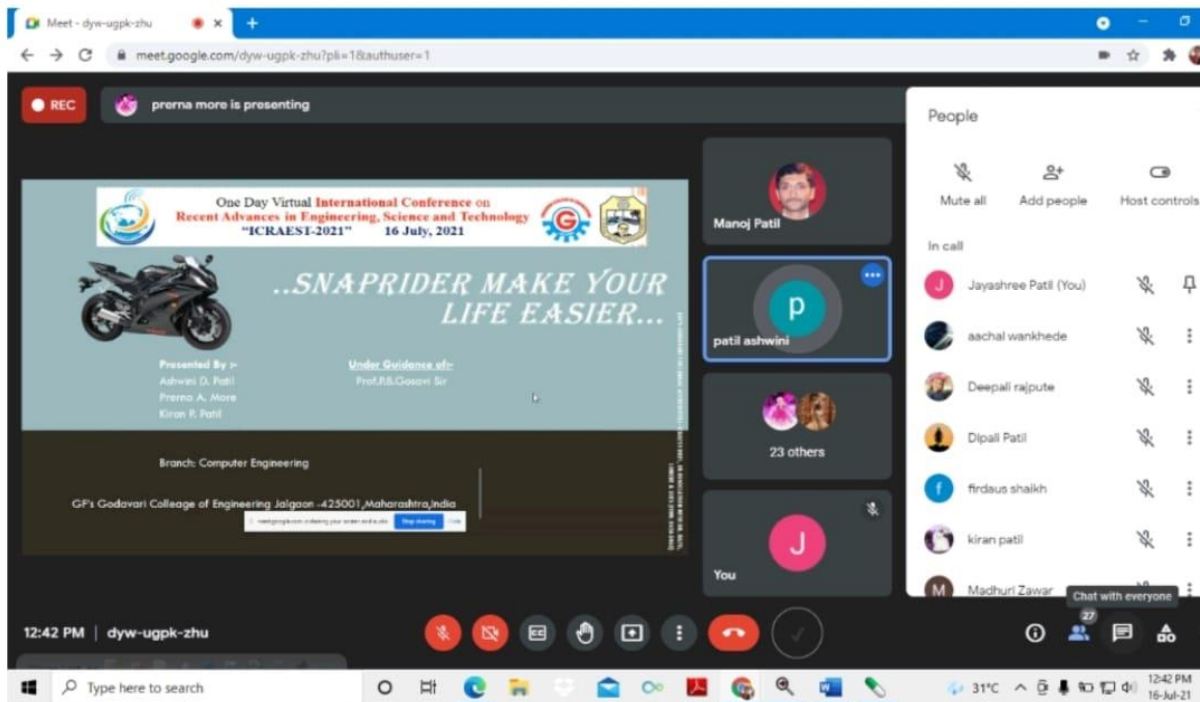
Dr. A. J. Patil – Session Chair, during technical session in E&TC track.

Technical Session – Mechanical Engineering



Dr. A. D. Vikhar, as a Session Chair in technical session at Mechanical Engg track.

Technical Session – Computer Engineering



Dr. M. E. Patil, as a Session Chair during technical session in Computer engg. track.

Technical Session – Electrical Engineering



Dr. K. V. Bhadane, as a Session Chair during technical session in Electrical engg.track.

Technical Session – Basic Sciences & Humanities




Dr. R. B. Waghulade, as a Session Chair during technical session

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PROCEEDING





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Science and Technology

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Multitasking Human Body Measurement

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Abstract - In my major project we can measure heart rate, pulse rate, blood pressure and body temperature. Heart rate reading will be displayed on LED by measuring the time between the two signal peak values and after that calculating the frequency of beats per minutes. Now a days we frequently visit to the doctor to get their vital signs measured. There is number of tools for non-invasive methods of measurement of these vital signs. The main objective of this proposed project is that to design and implement a reliable, low powered, cheap, non-invasive, and accurate system that can be used on a regular basis and monitors the vital signs and displays the output to the LCD. This data will easily be obtained by this instrument which is wireless network. This project specifically deals with the data collection and signal conditioning of three vital signs: heart rate, blood pressure, and body temperature. Heart rate is measured through an Electrocardiogram that can be obtained by attaching skin surface electrodes on the patient's wrists and fingers. Blood pressure combines the methodologies of Electrocardiography and Photo plethysmography to continuously monitor the systolic and diastolic blood pressure. Body temperature is measured inside the arm with a thermistor.

Keywords- Heart sensor, LM35, Blood pressure sensor (NPP301A), LCD, Microcontroller PIC16F877A

For full length paper refer: <https://doi.org/10.46335/IJIES.2021.6.10.12>
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Real Time Street Light Automation Using Arduino

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Abstract- Now-a-days the amount of power consumed by lighting and streets shares a major energy demand. The Street light Automation system helps in reducing the energy consumption. Generally, street lights are switched on for whole night and during the day, they are switched off. But during the night time, street lights are not necessary if there is no traffic. Saving of this energy is very important factor these days as energy resources are getting reduced day by day. To overcome from this problem, a proper energy saving methods and lighting control to be implemented. The proposed work is to have two controls like, one is to switch OFF/Dim lights during no vehicle moments in streets and automatically switch it ON when vehicles arrive and the other modes are to give less intensity light for pedestrian and to switch on bright mode during vehicle moments at sides on the roads. In this work the LED lights are used for street arrangement, LDR is used as decide day night time and IR sensor used vehicle movement. It automatically switches the lights ON when the sunlight goes below the visible region of our eyes. This is done by a sensor called Light Dependent Resistor (LDR) which senses the light actually like our eyes. It automatically switches OFF/Dim lights whenever the sunlight comes visible to the sensor. The control signals of sensors have been fed to Arduino Nano board (ATMEGA328). In the Arduino Nano board the control logic is implemented to control lights based on vehicles and pedestrian moments with bright and dim mode of operation and to switch DIM lights during no vehicles.

Keywords - Light Dependent Resistor (LDR), Arduino ATMEGA328, Street Light Automation, RTC

For full length paper refer: <https://doi.org/10.46335/IJIES.2021.6.10.26>
e-ISSN: 2456-3463 Vol. 6, No. 10, 2021, PP.125-129



Valedictory...

Session wise valedictory was conducted, feedback was taken at the same time. Certificate of Participation and Best Paper Award certificate were sent online to the corresponding authors email ID. Respective Session chair has more keenly elaborated the awareness of research in Engineering field and how to think over particular topic while choosing the project topic.



ICRAEST-2021 Passionate Team
