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THE SPARK

Igniting Innovations

DEPARTMENT OF
ELECTRICAL AND ELECTRONICS
ENGINEERING

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2024



UNIVERSITY COLLEGE OF ENGINEERING KAKINADA (A)
JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY KAKINADA

Inside



01 MESSAGES AND
OPINIONS

04 EVENTS

02 ACHIEVEMENTS

05 ARTS &
CULTURALS

03 ARTICLES



ACHIEVEMENTS

- Dr. K. Venkata Reddy, Processor & HOD of EEE has completed “Professional Certificate on Electric Cars” by Delft X through edX.



- Ms. B. Kavya (22021A0250) has won Gold medal in the "Senior Men & Women Inter District Wrestling Championship" under 50kg weight category(freestyle), organized by Anantapur District Wrestling Association and got selected for Senior Men & Women National Wrestling Championship which is to be held at Bengaluru, Karnataka.

- Mr. Challa Venkatesh (23021A0205) has won 3rd prize High jump (Men) in Inter collegiate Athletics Men and Women Championship 2024-25 (south Zonal Athletics) organized by Aditya College of Engineering (A) held at Surampalem on 11th & 12th November.



- Dr. K. Venkata Reddy, Professor and HOD, has delivered a lecture on “Charging Schemes and Chargers for EVs ” and “Smart Charging and V2G Technologies” in Dept. of EEE, JNTUA college of Engineering (A), Ananthapuramu, on 27th Nov. 2024.

Congratulations!

for getting placed in



Sri N. Rohith
21021A0210



**With CTC
of 4LPA**



Veraswamy
21021A0232



**With CTC
of 6.5 LPA**



Ms. K. Chaitra Sri
21021A0217



Ms. A. Desowja
21021A0241



**With CTC
of 6 LPA**



Ms. K. Kusuma
21021A0240



Ms. P. G. S. Sripriya
21021A0231

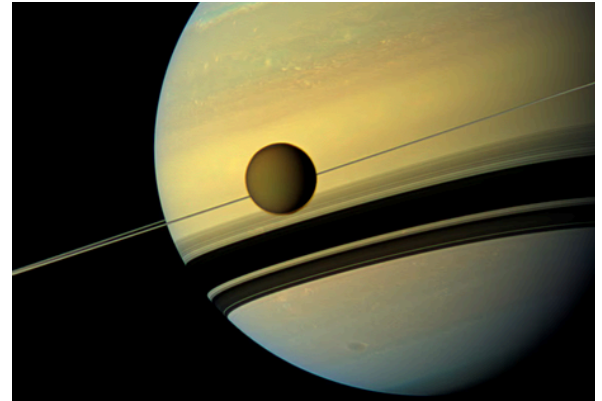


**With CTC
of 3.3 LPA**

TITAN-LUNA SATURNI

Titan is the largest moon of Saturn and the second largest in the solar system. Luna-Saturni is the latin name for “moon of Saturn”. The speciality of titan is that it is the only moon known to have an atmosphere denser than the earths and is the only known object in space, other than earth, on which there is dear evidence that stable bodies of liquid exist. Titan’s frequency described as a planet like moon. If has a dense atmosphere that’s mostly nitrogen, with a small amount of methane. The surface temperature of titan is -179 degrees Celsius.

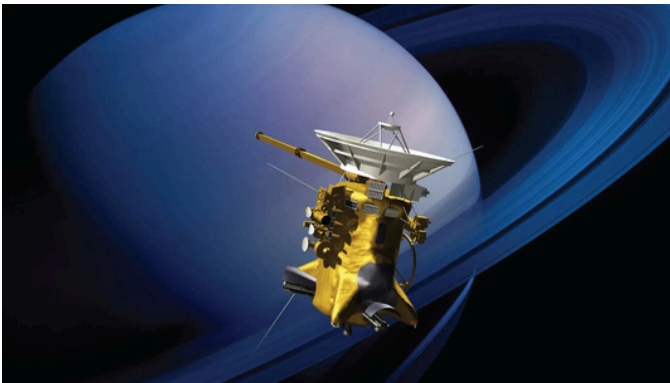
According to NASA ,”In many respects, Saturn’s largest moon, Titan is one of the most earth like words we have found to data. In 2014 scientists found a transient feature, they playfully referred to as “Magic Island”. It is possible that nitrogen bubbles formed in Titans ocean sit on the surface for a period of time, creating a temporary island that eventually dissipate.



Source: <https://images.app.goo.gl/yeqnE2yWxZ6xdd2o8>

The day cycle on Titan loose 15.9 earth days, which is how long it takes Titan to orbit Saturn. It is tidally locked, so the same part of titan always forces Saturn and there is no separate “month” cycle.

CASSINI-HUYGENS



Source: <https://images.app.goo.gl/8psKJKReGs2QggTX8>

The Cassini-Huygens , a robotic space craft and a lander that is sent by NASA to observe Saturn and its moon, revealed titan to have rain, rivers, lakes and seas of liquid methane and ethane.

The largest seas are hundreds of feet deep and hundreds of miles wide. It is named after the Dutch astronomer, Christian Huygens, who discovered Titan in 1655. Cassini Huygens discovered that Titan has a global ocean of liquid water and ammonia beneath its surface.

LIFE ON TITAN

Since, we got to know that there exists lakes, seas, rivers on titan and liquid water and ammonia beneath it, we might assume that life can be possible on Titan. But in contradiction to this NASA scientists agree that life is unlikely to exists on Titan.

In addition to this, Titan's atmosphere lacks oxygen, the most essential component for human life to exist. However NASA not yet reached to a final conclusion about life on Titan, but it is considered a prime candidate for studying The potential for life beyond earth.

**Written by,
N.Dharani
24021A0230**

“I think we have a good chance of surviving long enough to colonize the solar system”.

-Stephen Hawking

Are We Heading Toward a New Cold War in 2025?

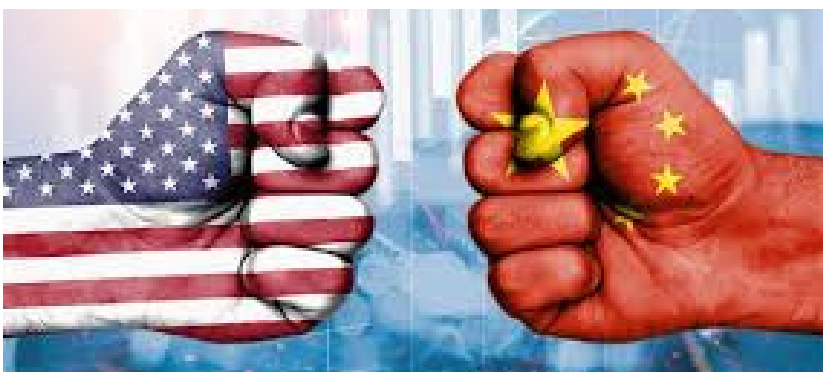
In the rapidly shifting geopolitical landscape, whispers of a new cold war are growing louder. The echoes of the 20th century standoff between the U.S. and the Soviet Union seem eerily familiar, yet this modern iteration is uniquely defined by technological rivalry, economic shifts, and a more interconnected global stage. As we approach 2025, the question isn't just whether we're heading into a new cold war but what form it might take.



Source: Countries might involve in cold war

Unlike the binary standoff of the past, today's geopolitical rivalries are multi-faceted. The U.S. – China relationship is marked by disputes over Taiwan, trade, and maritime boundaries. Meanwhile, Russia's actions in Ukraine have reignited Western military alliances such as NATO, and regional powers like India, Turkey, and Iran play increasingly influential roles.

The hallmark of this emerging cold war is the race for technological supremacy. Competition in artificial intelligence, quantum computing, and semiconductors drives a new arms race. The U.S. has restricted semiconductor exports to China, while China is pursuing self-reliance in critical technologies. Cybersecurity and space exploration are also emerging arenas of rivalry.



Source: <https://images.app.goo.gl/qsGfsz3HFci4K1EU8>

Unlike the original cold war, today's global economy is deeply interconnected. Efforts to decouple, such as the U.S. reshoring semiconductor production and China's "Dual circulation" strategy, risk fragmenting trade networks. This could create parallel economic systems, forcing nations to choose sides in an increasingly divided world.



Source: <https://www.unsw.edu.au/newsroom>

Military posturing has intensified, with NATO expanding in response to Russia's actions and China bolstering its presence in the South China Sea. At the same time, both powers are vying for influence in the Global south, echoing the proxy conflicts of the 20th century.

Despite rising tensions, there is room for de-escalation. Climate change, pandemics, and global economic challenges demand collaboration. Non-aligned nations, such as India, advocate for dialogue over division.

The emerging cold war isn't just about dominance – it's about the future of global order. Will nations prioritize cooperation over competition? As we approach 2025, the stakes couldn't be higher, with economic stability, peace, and the environment hanging in the balance.

Written By:
P. Mahitha Tejaswi
23021A0237

EVENTS AND WORKSHOPS

- Dr. N. Mohan Rao, Principal UCEK and Dr. K. Venkata Reddy, HOD EEE Dept. inaugurated the Student Activity Centre on 16th November 2024. The ceremony was led by the faculty coordinator Sri B. Naresh and faculty co-coordinator Dr. B. Ajay Babu.



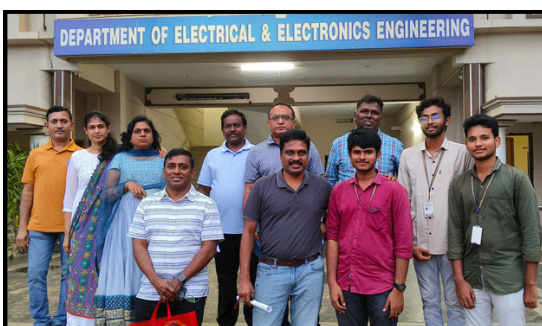
- The first and second edition of the department newsletter, The Spark - Igniting innovations was released by Dr. N. Mohan Rao, Principal UCEK.

- The Department of EEE organized a two-day workshop on "MATLAB Applications in Electrical Engineering" as part of the Institute of Engineers (India) Student Chapter activities. The workshop was held on November 18th and 19th, and the resource person was Dr. Ch. Suresh, Prof & HOD-CSO, VVIT, Guntur. A total of 60 students participated in the workshop.



- The Sports and Fitness Club began on November 23rd 2024 at JNTUK stadium, with students participating enthusiastically. After a speech by club president K. Ashok Sai, students played various sports, showing impressive sportsmanship and agility.

- The Coding and Innovation Club conducted its first session on 26th Nov 2024, Different ideas floated around the club including Bluetooth controlled car, voice controlled phone using IoT and line following car using Arduino.



- The EEE Department welcomed the Alumni 1994-1999 on 30th Nov 2024. Everyone gathered at the seminar hall and had quality time. The Alumni celebrated their Silver Jubilee by addressing students with their experience in various fields.



- M. Tech. (HVE, AEPS, PED) and IV B.Tech students of EEE Department, UCEK has participated in a 2-day online workshop by Math works and were awarded with a certificate for participating in MATLAB Expo on 13th & 14th Nov 2024 in the following topics: 1. How to modernize fundamental engineering courses with matlab and simulink 2. Watt's up with electric vehicles? Modelling the EV ecosystem 3. Engineering at full throttle; Optimize a motor cycle swing arm 4. Project based learning with low cost hardware using MATLAB online. A total of 75 students participated in the workshop.

BLOOD DONATION CAMP: A NOBLE INITIATIVE BY SRAVANI SEVA SAMITHI JNTUK



The Blood camp by SRAVANI SEVA SAMITHI JNTUK was successfully organized at Town hall ,mainroad, Kakinada on 17th November 2024 by JNTUK ALUMINI(2015-19) and graced by the presence of our esteemed chief guests, Sri. KELLA UDAYAPAVANI Deputy superintendent of police(DSP) and Sri.DANDUBOINA DINESH YADAV Assistant accounts officer who were also part of JNTUK ALUMINI.

The special part of this event is that it is the 8th consecutive year they are organizing this with the help of JNTUK students and support of proud ALUMINI. It was a heartfelt tribute to the memory of a friend's, this camp reflected the values -Kindness, generosity, and care for others.

This year, 16 dedicated participants from EEE Department came forward to donate blood, reaffirming their commitment to saving lives. We extend our heartfelt gratitude to: [T.Usha sri, Bhargava Alapati, Srihari Bonthu, P.Srinadh, K.Satish, A.Lokeswara Rao, K.Hemanth, P.Sai Venkata koti, K.Premkumar , I.Uday kiran, CH.S.Sri Vardhan, A.Pransanth kumar, S.Tarun, B.Santosh, T.Mohan Krishna and P.Govind Sairam Sathwik]. And many others came as volunteers to support others.

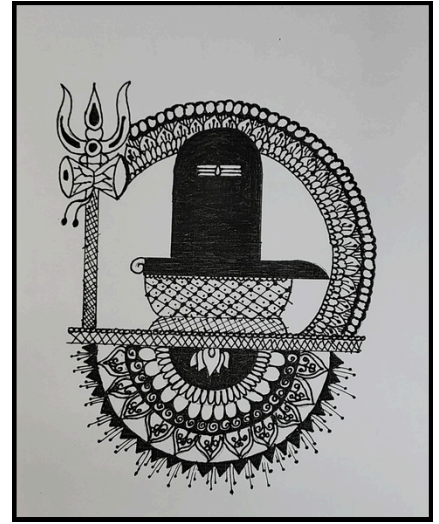
ARTS AND CULTURALS



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22021A0249



R. K. Y. SATYA SREE
22021A0218

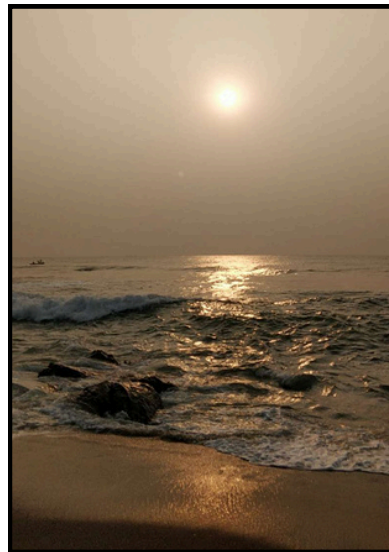


R. HANSIKA
23021A0216

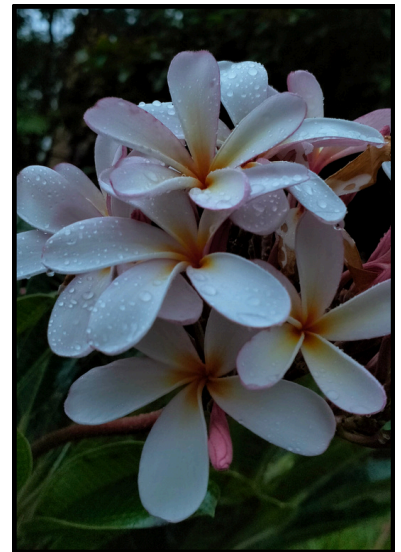
Photography



J.EESHITHA SMILE
24021A0219



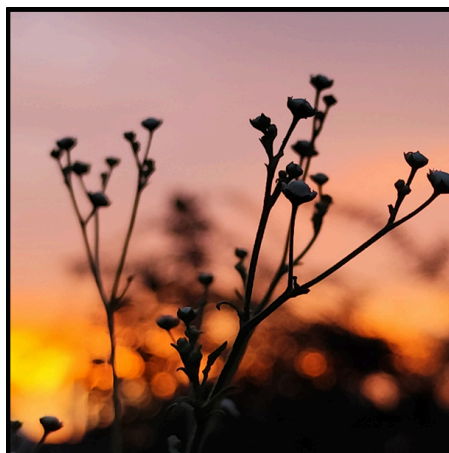
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