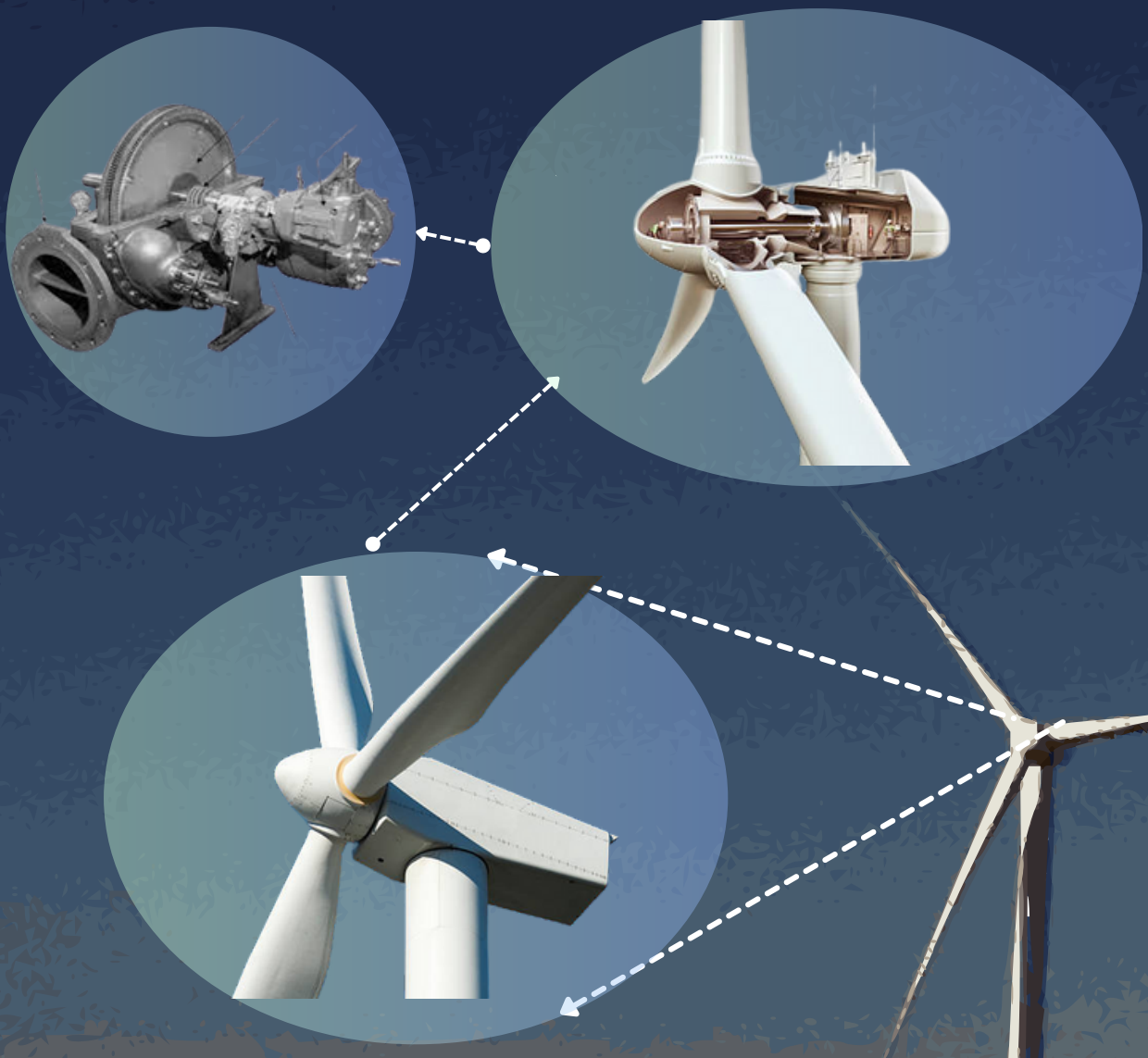
ASPIRE

ACHIEVEMENTS IN SPORTS,PROJECT,INDUSTRY,RESEARCH AND EDUCATION

MONTHLY NEWSLETTER

Department of Mechanical Engineering

VOLUME-13 ISSUE-5 MAY



SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
RAJIV GANDHI SALAI(OMR),KALAVAKKAM,CHENNAI,TAMILNADU,INDIA

FROM THE HOD'S DESK...

We are happy to bring out the May edition of Aspire!!

We profile C Radhakrishna Rao, Indian - American mathematician for winning the 2023 International Prize in Statistics, the equivalent to the Nobel Prize in the field.

It's a matter of great pride that Roshni Nadar Malhotra has been honored with the Business Today Most Powerful Women in Business Award 2023. Sycon 2023, the annual entrepreneurship event was conducted with a plethora of eminent speakers sharing their success journey.

Research is a constant prime mover for the department's success, and we saw Dr SRK Rao/Prof get an external research grant from DRDO for 24.2 lakhs. Faculty continue to publish quality research papers in good journals. Workshops on energy conservation trends and NDT were conducted and an initiative to start the ISHRAE student chapter in SSN was organized with the support of IGCAR/BARC scientists.

Students share their experiences in attending NSS camps, participating in Fusion 360 challenge and indulging in a passion towards film making. Alumni networking is a continuous part of our engagement with our former students and a few of them share their gratitude towards the department and institution in shaping their success.

I hope you have a good time reading our May edition!!!

KSV | vijaysekarks@ssn.edu.in

C R RA0 AWARDED WITH NOBEL EQUIVALENT PRIZE

Calyampudi Radhakrishna Rao, a prominent Indian-American mathematician and statistician, will receive the 2023 International Prize in Statistics, the equivalent to the Nobel Prize in the field, for his monumental work 75 years ago that revolutionised statistical thinking.

Rao's work, more than 75 years ago, continues to exert a profound influence on science, the International Prize in Statistics Foundation said in a statement.

Rao, who is now 102, will receive the prize, which comes with a $80,000 award, this July at the biennial International Statistical Institute World Statistics Congress in Ottawa, Ontario, Canada.

The first, now known as the Cramer-Rao lower bound, provides a means for knowing when a method for estimating a quantity is as good as any method can be, it said.

The second result, named the Rao-Blackwell Theorem (because it was discovered independently by eminent statistician David Blackwell), provides a means for transforming an estimate into a better—in fact, an optimal—estimate. Together, these results form a foundation on which much of statistics is built, the statement said.

And the third result provided insights that pioneered a new interdisciplinary field that has flourished as "information geometry." Combined, these results help scientists more efficiently extract information from data, the statement added.

Information geometry has recently been used to aid the understanding and optimization of Higgs boson measurements at the Large Hadron Collider, the world's largest and most powerful particle accelerator.

It has also found applications in recent research on radars and antennas and contributed significantly to advancements in artificial intelligence, data science, signal processing, shape classification, and image segregation.

Campus Update

ROSHNI NADAR – BUSINESS WOMAN OF THE YEAR

Right from the beginning, she was involved in brand building across the HCL Group. She is the chairperson of VidyaGyan Leadership Academy, a leadership academy for the economically underprivileged. She set up 'The Habitats' trust that aims at protecting India's natural habitats and indigenous species in a bid to create and conserve sustainable ecosystems.

HCLTech Chairperson Roshni Nadar Malhotra has been honored with the Business Today Most Powerful Women in Business Award 2023. India's leading business magazine selected the HCLTech Chairperson for the coveted list for her strong leadership in steering the company's global growth strategy and being a role model for women. She received the award from the Hon'ble Minister of Women & Child Development and Minister of Minority Affairs, Smriti Irani.

SYCON'23- FLAGSHIP EVENT OF SSN LAKSHYA

SYCON'23 is all about gaining entrepreneur perspective of things. While the speakers share their success stories, the listeners are able to clearly know about the knacks and tips involved in entrepreneurship. SYCON'23 being the flagship event of SSN LAKSHYA- Entrepreneurship Development Cell of SSN happened with all glam and glitter.

The speaker lineup also included Sudharshan from Social academy, Karkai Academy, Vikkals Vikram, Santhosh- a fitness enthusiast, Peppa Foodie, NVP Crew and Blacksheep crew as well. The event began with two entrepreneurship talks and then moved on to all the fun and knowledge the students were expecting. Refreshments and lunch were also provided to the students. With all the support from the students, the event rose up to being a success.

ADMISSION SEASON'23

B.E and B.Tech programs are the flagship programs offered at SSN. Currently there are 8 B.E and B.Tech programs being offered here and every program is affiliated to Anna University. The admission process is indisputable and only according the Universities' regulations. Admission for 65% of the seats at SSN is done through the single window counselling as per Anna University norms. These seats at SSN are filled up within the first few days of counselling with significantly high cut-off marks. The remaining 35% of the seats of the management quota are also filled on merit. 25 seats are earmarked for students who excel in both their academics and sports (by way of encouraging sports) and another 25 seats are offered free for the toppers of Government rural schools of Tamil Nadu on a 'scholarship for meritorious students from rural areas'. In addition, 15 toppers from State Board Schools are offered free education at SSN under the' walk-in-walk-out' scholarship. As for now, the admission process for the 35% management seats has started. People can now start registering themselves for the entrance exams and based on cut off criterion they will be permitted to write the exams.

Department Update

International Journal Publication - SCI /Clarivate Indexed

Dhananchezian, M. "A review on performance evaluation of liquid nitrogen as coolant in turning Ti-6Al-4V alloy." *Machining Science and Technology* (2023): 1-157. Clarivate Impact Factor: 2.154

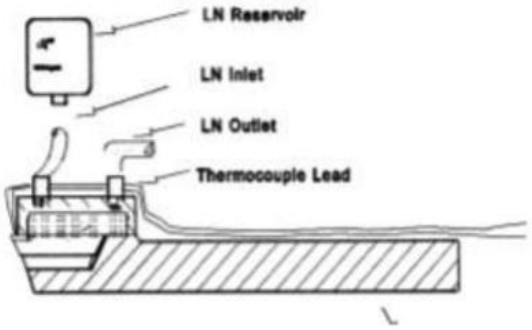


Figure 1. Liquid nitrogen circulation system with tool metal cap (Wang and Rajurkar, 2000).

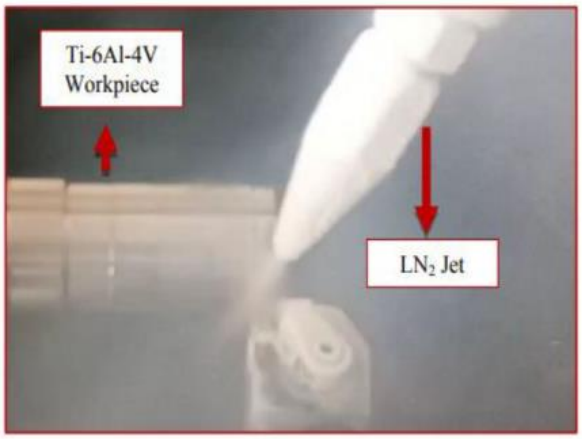


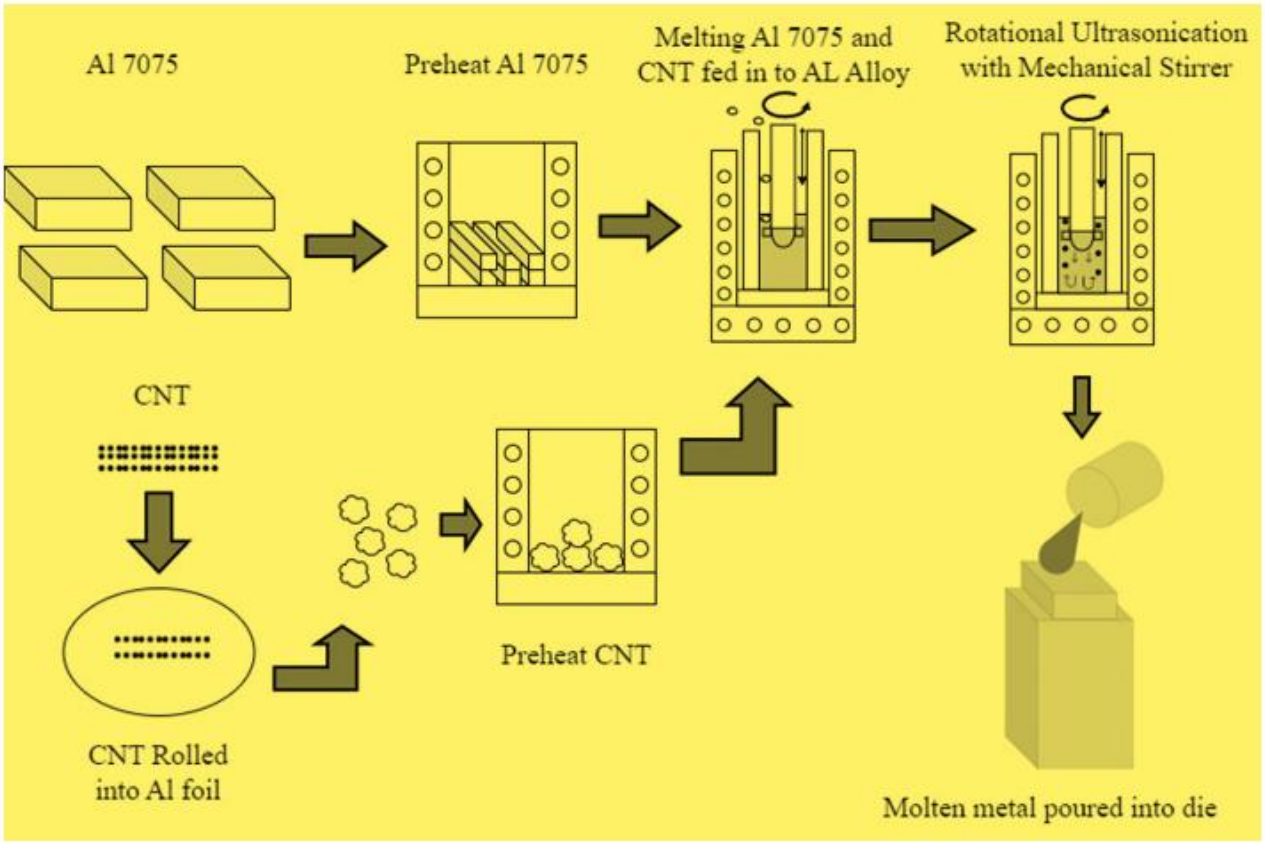
Figure 4. Photographic view of LN_2 jet on the tool-workpiece interface (Khan et al., 2019).

International Journal Publication - SCI /Clarivate Indexed

Arun David, Satheesh Kumar Gopal, Poovazhagan Lakshmanan, and Amith Sukumaran Chenbagam. "Corrosion, mechanical and microstructural properties of aluminum 7075—carbon nanotube nanocomposites for robots in corrosive environments." *International Journal of Minerals, Metallurgy and Materials* 30, no. 6 (2023): 1140-1151. Clarivate Impact Factor: 3.85

A glimpse of the paper: Scavenging is one domain field despite human assistance, existing machines are often insufficient to clear the sewers in important cities around the globe. The robots have grown in complexity since their initial objective of ensuring minimum contact with sewage waste while cleaning. The complexity grew over time owing to the presence of other assorted garbage, such as wrapping, polythene bags, and plastic bottles. Thus, the current generation of researchers is focused on the trade-off between the initial cost and its operational cost. The introduction of in-pipe robots for sewage cleaning provides researchers with new options for pipe inspection, such as leakage, crack, gas, and corrosion detection, which are standard applications common in the current industrial scenario. The question that is frequently overlooked in all these cases is the inherent resistance of robots to corrosion. The mechanical, microstructural, and corrosion properties of aluminum 7075 incorporated with various weight percentages (0, 0.5wt%, 1wt%, and 1.5wt%) of carbon nanotubes (CNTs) are discussed. It is fabricated using rotational ultrasonication with mechanical stirring (RUMS)-based casting method for improved corrosion resistance without compromising the mechanical properties of the robot. 1wt% CNTs–aluminum nanocomposite shows good corrosion and mechanical

properties, meeting the requirements imposed by the sewage environment of the robot.



Schematic representation of RUMS process

International Journal Publication - SCI /Clarivate Indexed

Usharani, T., and M. Suresh. "Parametric Studies on a Two-Stage Evaporative Cooler During Tropical Climates in India." *Journal of Thermal Science and Engineering Applications* 15.7 (2023). Clarivate Impact Factor: 1.831

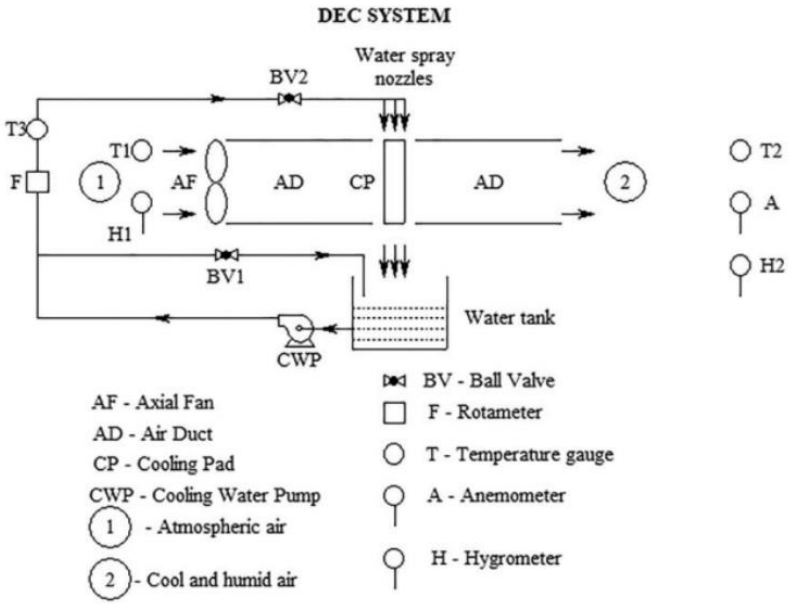


Fig. 1 Schematic diagram of direct evaporative cooling system

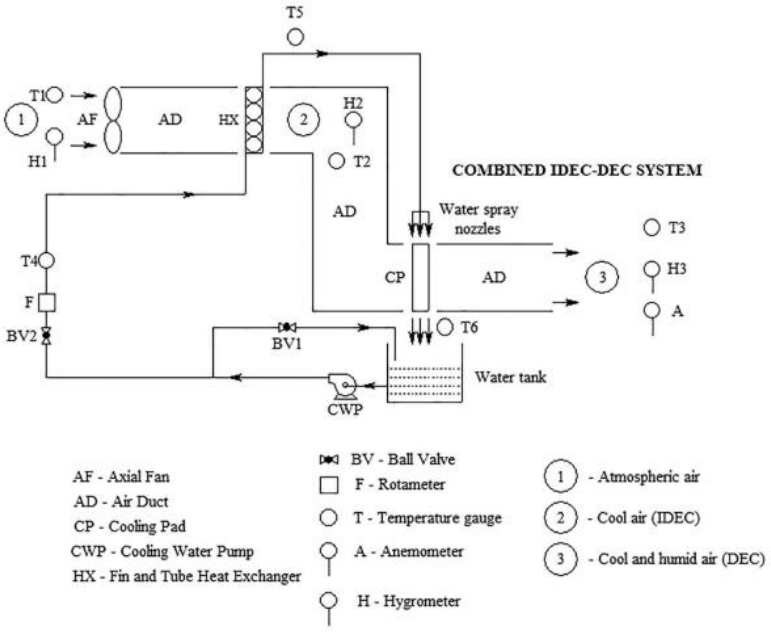


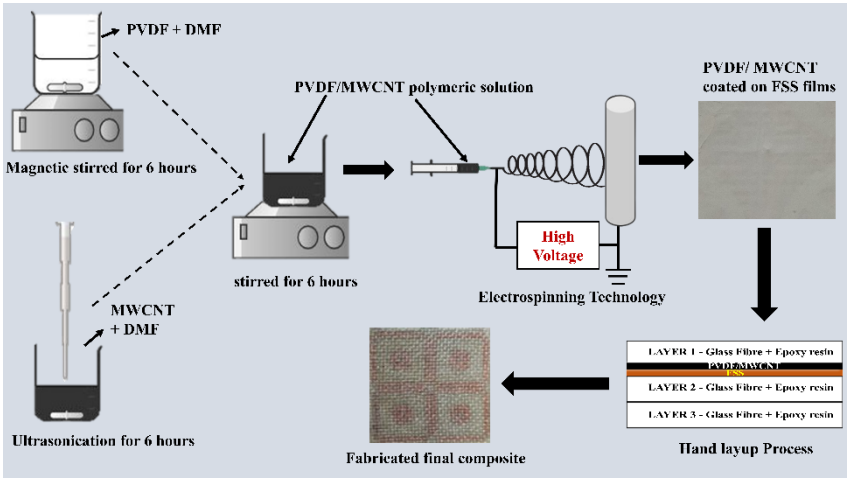
Fig. 26 Schematic diagram of the two-stage evaporative cooling system

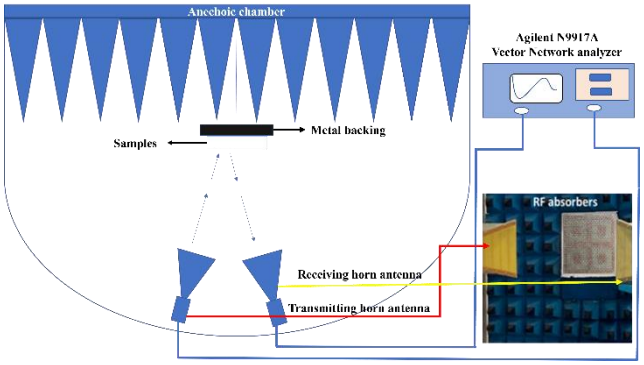
International Journal Publication - SCI /Clarivate Indexed

Amudhu, Lekkaiyan Baskaran Thamil, Ramalingam Vimal Samsingh, Sundarsingh Esther Florence, and Balakrishnan Sakthi Abirami. "Novel radar absorbing material using resistive frequency selective surface based polymer composites for enhanced broadband microwave absorption." *Proceedings of the Institution of Mechanical Engineers, Part L: Journal of Materials: Design and Applications* (2023): 14644207231169362.Clarivate Impact Factor: 2.663

Paper Write Up

In this paper, a novel approach using glass fibre laminate composite (GFLC) with nanoparticle embedded nanofibres and frequency selective surfaces (FSS) for improved electromagnetic (EM) wave absorption has been proposed. For enhanced absorption, the FSS was coated with polyvinylidene fluoride (PVDF) mixed with multi-walled carbon nanotubes (MWCNTs). The coatings were prepared through electrospinning technique. The composite prepared from FSS, PVDF-MWCNT layers and GFLC showed enhanced absorption properties. The tailored composite material could be used as excellent radar absorber structures (RAS) and can find tremendous application in the manufacture of stealth aircrafts.





Scopus Publication

Prathap Singh, S., D. Ananthapadmanaban, D. Elil Raja, Tushar Sonar, Mikhail Ivanov, P. Prabhuraj, and V. Sivamaran. "Investigating the Microstructure, Tensile Strength, and Acidic Corrosion Behaviour of Liquid Metal Stir Casted Aluminium-Silicon Carbide Composite." *Advances in Materials Science and Engineering* 2023 (2023). Scopus Impact factor: 2.098.

MARİAPPAN, Suresh. "Numerical investigations on a triple fluid heat exchanger with helical and sinusoidal coils." *Journal of Energy Systems* 7.1 (2023): 46-56. Scopus Impact factor: 0.21.

Faculty Write-Up

NATIONAL WORKSHOP ON ENERGY CONSERVATION TRENDS

A National Workshop on Energy Conservation Trends was organized by the Department of Mechanical Engineering on 29th March 2023. Dr. A.S Ramana, Associate Professor, delivered the welcome address. Dr. K. S. Vijay Sekar, Prof. & Head, Department of Mechanical Engineering spoke on the importance of the workshop. Dr. R. Saravanan, Professor, Anna University, Chennai delivered a lecture on Energy Systems for Commercial Buildings. Dr. M. Venkata Ramanan, Professor & Director, Institute for Energy Studies, Anna University, Chennai. delivered a lecture on "Energy Conservation-Need of the hour". In the afternoon session, Thermodynamic Analysis & Optimization Using Cycle Tempo software was demonstrated by Dr. M. Sreekanth Professor, VIT University, Chennai. Dr. R. Prakash, Dr. S. Rajkumar, Dr A S Ramana & Dr B. Jayakishan coordinated the workshop. The workshop was useful and informative and had enthusiastic participation from academic and research institutes.

ISHRAE ORIENTATION AND WORKSHOP

The Indian Society of Heating, Refrigeration and Airconditioning Engineers (ISHRAE) Orientation Workshop was held on 4th April 2023 in Mechanical seminar Hall of our institution. Dr. K.S. Vijay Sekar, Prof. & Head, Mech, SSNCE explained the importance of Refrigeration & Airconditioning sector and IGCAR role in Nation development. Technical Talk on Basics of Thermodynamics was delivered by Mr. D. Jagadishan. Scientific Officer- grade F, IGCAR. Mr. E. Mohanraj, Past President-ISHRAE Kalpakkam Chapter, Scientific Officer/E, MC&MFCG, IGCAR, Kalpakkam briefed the participants on ISHRAE activities and benefits of ISHRAE membership.

Mr. S. Marudhupandiyaraja, Scientific Assistant-E (water and steam chemistry division), Bhabha Atomic Research Centre, Department of Atomic Energy (DAE), Kalpakkam and Mr. Badhri Vishal Maruvada, President of ISHRAE Kalpakkam Chapter interacted with participants. Dr A.S. Ramana, Associate Professor & Dr. T. Micha Premkumar, Assistant Professor Coordinated the workshop.

WRITEUP ON A ONE-DAY NATIONAL WORKSHOP ON ADVANCED NON-DESTRUCTIVE TESTINGTECHNIQUES AND THEIR APPLICATIONS: 24-04-2023 (MONDAY)

Dr. K. Jayakumar, Dr. R. Damodaram, and Dr. A. K. Lakshminarayanan and, Associate Professors conducted a one-day national workshop on "Advanced Non-Destructive Testing Techniques and its Applications" at the Department of Mechanical Engineering, SSN College of Engineering on 24-04-2023 (Monday). Around 30 external participants registered and attended the workshop. The major participants were from Karpaga Vinayaga College of Engineering and Technology- Chengalpattu, Dhanalakshmi Srinivasan College of Engineering and Technology- ECR-Mamallapuram, Thirumalai Engineering College-Kancheepuram, Saveetha Engineering College-Thandalam, Hindustan Institute of

Technology and Science- Padur, Dr. Sivanthi Aditanar College of Engineering-Tiruchendur along with an Industry Expert (Retired from TVS) etc.

Four sessions were taken from Maitravaruna Technologies Private Limited, Adyar, Chennai along with NDT experts and they covered the topics of Conventional NDT & Its Field Applications, Advanced NDT in Industry & Career Growth in NDT, Corrosion, Identification & Evaluation along with NDT Practical Session in the afternoon. The entire workshop covered the theory and practical sessions on LPT, MPT, RT, UT, PAUT, and TOFD with A, B & C scan methods.

The workshop was interactive, and participants expressed interest in doing an internship, project work, and MoU with Maitravaruna Technologies Private Limited, Adyar, Chennai, An ISO 9001, 14001, 45001 certified company. We would like to thank SSN Management for the financial support to conduct the workshop.

The session with Corrosion, Identification & Evaluation with participants

The workshop with all participants

Practical sessions with different groups

The session with various NDT techniques

WORKSHOPS ORGANIZED

4/25/2023 13:05:18	Dr. K. Jayakumar, Dr. R. Damodaram, and Dr. A. K. Lakshminarayanan and, Associate Professors conducted a one-day national workshop on “Advanced Non-Destructive Testing Techniques and their Applications “on 24-04-2023 (Monday).

NON-TEACHING STAFF ACTIVITIES

4/20/2023 8:19:28	Balasundaram P / Lab Assistant / Mechanical / Admission duty on SNUCEE23 for April 23, 2023 (Sunday) 8 am to 3 pm at SSN CSE Annex Microprocessor lab.

PROJECT SANCTIONED

4/20/2023 8:20:45	Dr. S. R. Koteswara Rao (PI) Dr. A. K. Lakshminarayanan (Co PI): Wire arc additive manufacturing of Inconel718 to Stainless steel functionally graded materials using dual filler TIG Welding
4/24/2023 11:17:35	Dr. Anirudh V. K. and Dr. S. R. Koteswara Rao: Developing novel multi-layered materials for light weighting and ballistic protection application using accumulative roll bonding
26/03/2023 14:38:26	A Novel Product for Remote Diagnosis and Assessment of Osteoporosis in Elderly and Menopausal Women, PI: Dr.R.Vimal Samsingh/ASP/Mech; CO-PI :Dr.S.Esther Florence /ASP/ECE: 30,73, 400/-.Funding Agency: Chief Ministers Research Grant

INTERNATIONAL CONFERENCE ATTENDED

4/6/2023 11:46:56	R. Srimurugan, D. Ananthapadmanaban and Vijay Ramnath presented a paper at ARAM 2023 International Conference held at Sri Siva Subramaniya Nadar College of Engineering, Kalavakkam-603110.Date of Conference was 23rd and 24th March,2023 and the paper was entitled Comparison of Delamination parameters in Nylon, Polycarbonate and Aramid based GFRP Composites.

INTERNATIONAL JOURNAL PUBLISHED

4/17/2023 10:03:44	Dr. M. Dhananchezian published “A review on performance evaluation of liquid nitrogen as coolant in turning Ti-6Al-4V alloy” in the International Journal Machining Science and Technology.
4/19/2023 9:03:01	Dr. Arun David, Dr. Satheesh Kumar Gopal, Dr. Poovazhagan Lakshmanan, and Dr. Amith Sukumaran Chenbagam published a paper on “Corrosion, mechanical and microstructural properties of aluminum 7075–carbon nanotube nanocomposites for robots in corrosive

	environments" in the **International Journal of Minerals, Metallurgy and Materials, Springer.**
4/24/2023 8:46:47	Dr. T Usharani, Dr. M Suresh published a paper on "Parametric Studies on a Two- Stage Evaporative Cooler During Tropical Climates in India" in the **Journal of Thermal Science and Engineering Applications.**
4/24/2023 8:52:37	Dr. S. Prathap Singh, Dr. D. Ananthapadmanaban, Dr. D. Elil Raja, Dr. Tushar Sonar, Dr. Mikhail Ivanov, Dr. P. Prabhuraj, and Dr. V. Sivamaran published a paper on "Investigating the Microstructure, Tensile Strength, and Acidic Corrosion Behavior of Liquid Metal Stir Casted Aluminum - Silicon Carbide Composite" in the International Journal **Advances in Materials Science and Engineering.**
4/24/2023 9:08:03	Dr. M Suresh published a paper on "Numerical investigations on a triple fluid heat exchanger with helical and sinusoidal coils" in the **Journal of Energy Systems**

EXTERNAL RECOGNITION

4/3/2023 12:10:32	Dr. Satheesh Kumar Gopal was invited as a jury member to evaluate the projects submitted to "Automation and Robotics Challenge 2023" on March 30, 2023 (ARC'23) organized by the Department of Mechatronics Engineering at the Hindustan Institute of Technology and Science, Padur, Chennai
4/3/2023 12:15:00	Dr. Satheesh Kumar Gopal was a jury member for evaluating the projects at IEEE YESIST12 2023, organized by IEEE Student Branch in association with Institution's Innovation Council, SSN College of Engineering on March 31, 2023

4/11/2023 9:33:14	Dr D. Ananthapadmanaban, Associate Professor was invited as a reviewer for the Journal of Metals, The Minerals, Metals and Materials Society, Pittsburg, USA.

PATENT INFORMATION

25/03/2023 20:15:59	Dr. Vimal Samsingh R, ASP/Mech, Dr. S. Esther Florence S, ASP/ECE, and Aditya K, Akash S, Ashwin A, Gautam R have a filed a patent on their invention titled “WEARABLE SELF-BALANCING, CONFIGURABLE MOBILITY ASSISTANCE APPARATUS (202241026270)” on 17.03.2023.

Student Write-Up

S.NO	DATE	ACTIVITY DONE DURING THE MONTH
1)	12/03/2023-18/03/2023	*SECOND YEAR* Hari Shankar • Attended NSS Camp
2)	1/04/2023-15/04/2023	Fabrizio J • Earned a microsoft azure certificate by learning ML concepts.
3)	10/04/2023-13/04/2023	*THIRD YEAR* Nithin J • .Participated in Go-karting competition, gkdc held in Coimbatore, finished AIR 13TH
4)	14/03/2023-16/03/2023	Prasanna Perumaal S • Second runner up in Naan Mudhalvan Fusion 360 Design challenge- Level 3

HARI SHANKAR FROM SECOND YEAR MECHANICAL WRITES...

As a volunteer of the NSS unit of SSN , I participated in a camp held at a middle school in Thandalam village between 12th and 18th of March 2023.We divided into teams and conducted a survey on the first day of the camp in which we collected data about the residents of the village. Then we renovated the middle school and also a primary school in a nearby village Mettuthandalam. During the same period other teams taught classes and conducted sports competitions to the students. In the consequent days, we cleaned up a nearby lake and attended a palm seed planting program organized by EFI. Also we visited a solid waste management center at Mahabalipuram where we gained knowledge about the method of solid waste disposal. I had an amazing time in the camp. I got to interact with the village people there which was a new experience to me questioning complete strangers. Also there were these little school children with whom I played and enjoyed a lot. This camp has instilled in my mind the responsibility to keep my environment clean. In many ways, it helped me maintain my self discipline and social responsibility. The main thing I took back from the camp was the friendship with my fellow mates and the seniors. It is the connection we had that made us work together efficiently straight for a week.

PRASANNA KUMAR AND V J SATHYANATH FROM THIRD YEAR MECHANICAL WRITES...

We got a chance to participate in Fusion 360 mega challenge jointly conducted by TNSDC and Autodesk. We were among the other 300 students invited to the event. As we came second runner in the level 3 fusion 360 challenge we were qualified to attend the mega challenge. Participating in such an event in itself gives you great exposure. The event was about two days long. The first day was inauguration day, on this day we have gotten a chance to meet some of the imminent industry experts and other dignitaries. Dr. Saravanan Gopal, NPI manager caterpillar. Dr. Shankar Venugopal, vice president Mahindra, innocent Divya, IAS, MD TNSDC are a few who shared their wisdom about the industry and the skills needed by the industry. On the same day, we were given topics for the design contest. On the next day morning, the submissions of the design were

done, and an evaluation of the designs was made at the same time HRMs of various companies gave a pep talk on how to get placed in core companies, the skill needed to achieve them, what are the developments in the industry, what are the hiring criteria in their company and many more. At the end of the day the prizes were distributed, and the certificates were awarded by the Vice Chancellor of Anna University.

DHARSHANRAJ FROM FINAL YEAR **MECHANICAL** WRITES...

Hello everyone, I am Dharshanraj from final year of the Mechanical Department. This is About my passion and love towards filmmaking. Every person in this world loves Movies, from babies to aged people everyone loves movies. Someway they influences in our day-to-day life. Everyone loves something about the movie. I loved the way it Has been made. More than the picture, I loved the things happening behind those Pictures. So when I was in the 8th grade, I decided to make at least one short film in my Life. I was trying from that moment but ended up making one in my second year of UG.Many people helped me throughout my journey of making this short film. My friends Helped, my film team, my seniors, climate, location, and above all covid-19, which Provided me the space to make all this happen at one time. The movie is titled “SEMBULA CHERU”, which I took from Google after searching for along time. Sembula Cheru means when the rainwater and the red soil mix up, it is not Possible to separate them again. This is the one line of my short film. To be precise, it Means “Whatever is yours, it’s always yours!”. If you have something which belongs to You, even if someone forces you to get it from you, if it is yours it will surely come back To you in some way. This was the core message of the movie. It has a setup in a village Backdrop, which I did on purpose with the idea to create something new. I have also Made the screenplay structure unique, called Hyperlink. It means three different stories Which meet at one single point. So it’s a small space to convey the experience I got while making this short. To make My whole experience into a single word – it’s “Magical” It’s been one year

since I wrapped my shooting, but still, whenever I think about it, it gives me goosebumps. I Couldn't believe how I pulled this off. Sembula here is not a perfect short film. It has its Faults. But still, I am happy that I did this in my life. If you ask, are you going to become A filmmaker? My answer would be I don't know. I believe in miracles. But this magical Experience pushes me to do another short film. Hopefully, I will do it. Thanks D! will attach few posters of my short film here.

Mech Marvel

Amazing Innovation 233

Bridge that spots its flaws

The Camozzi Group and the Italian Institute of Technology have designed and built a robotic system, one of its kind in the world, to contribute to the safety of the new bridge in Genoa. The robotic system will be verifying the integrity of the infrastructure using **cameras and sensors** and will allow operators to intervene with preventive maintenance actions through data processing algorithms.

The construction and assembly of the robots, one of their kind in the world, which will be helping to make the Genoa San Giorgio Bridge safe, has been completed. The devices, **designed by Istituto Italiano di Tecnologia (IIT) and built by the Camozzi Group**, commissioned by the Temporary Association of Companies established by Seastema S.p.A. and Cetena S.p.A. (Fincantieri Group), will be contributing to the **safety of the new bridge in Genoa** regularly performing an automatic monitoring of the infrastructure by using **cameras and sensors.** The **4 robots** - 2 Inspection Robots and 2 Washing Robots - will be operational next autumn as soon as the installations servicing the system have been completed.

The robotic system is based on the installation of the 4 robots on the sides of the bridge: 2 of them will be in charge of inspecting the lower surface of the deck and processing the data in order to find any anomalies **(Robot-Inspection)** and the other 2 will be cleaning the wind barriers and solar panels **(Robot-Wash)**. This

robotic inspection system is **the first automatic system in the world a**nd provides a replicable model at the global level designed to enhance the safety of this type of infrastructure and of any civil works that may require automatic monitoring.

The 4 robots are made of carbon fibre structures, actuators, and electronic components. In particular, the single-piece beams that will enable deck inspection have been made by transposing technologies that are typical of the aerospace and aeronautical industries and were built using 3D moulds created by **the technology of the largest 3D printer in the world made by the** Camozzi Group**, the** MasterPrint® 3X **machine.**

Amazing Innovation 234

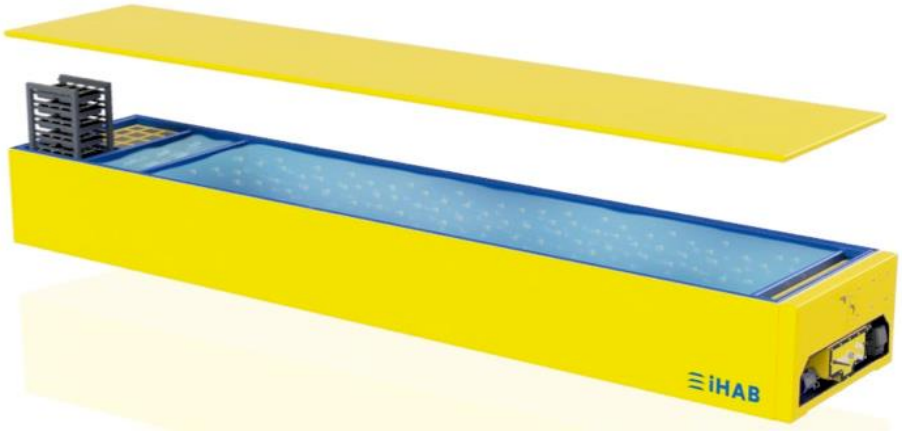
Vertical oceans aim to grow sustainable shrimps in huge aqua towers inside cities.

John Diener, the CEO of an aquaculture nutrition and genetics company, would visit hundreds of shrimp farms as part of his job. But gradually he became frustrated by some of the environmentally unsustainable practices used in many locations. One night, his wife bought some frozen shrimp to cook for dinner and he realized the industry he was involved in was poised to affect the health of his own family. Why? Because the shrimp was from a country that is known to use antibiotics on its shrimp farms. He decided enough was enough and set about building a new model for seafood.

The result was Vertical Oceans, a startup that grows sustainable shrimp in huge "aqua towers", which can be located inside cities, potentially in facilities that even look like buildings. The towers can incubate shrimp without chemicals or antibiotics, and out of season. And let's remember, Shrimp is a $50 billion a year market globally.

Coming out of IndieBio, Vertical Oceans has now closed a $3.5 million seed round with Khosla Ventures. This would appear to be the first time a major Silicon Valley fund has invested directly in an aquaculture startup (as far we know). Khosla led the round at $3 million and SOSV followed their pro-rata for the remaining $500,000.

So far, the startup has had 10 harvests in the last six months from its small proof of concept facility in Singapore to demonstrate the core biological concept works and can produce a good product.



Alumni Write-Up

AKASH SUNDAR OF BATCH 2018-2022 SHARES...

SSN holds a special place in my heart, not simply because it's where I pursued my mechanical engineering, but rather because it's where I first discovered my passion for robotics. The faculty at SSN are exceptional. They were not just knowledgeable but also approachable and supportive. I was fortunate to have Vimal Samsingh as my mentor, who encouraged me to explore beyond the classroom and helped me hone my skills in research. Thanks to his guidance, I was able to publish a few papers during my time at SSN and even applied for a patent. The freedom to ideate my own projects and pursue it to the fullest is what I love most about SSN. But SSN wasn't just about academics. The campus was simply stunning, with its lush greenery and modern architecture. The hostel life was comfortable, and I made some great friends there. The basketball court and the sports complex are honestly the first places that come to mind, as that's where I spent most of my evenings. The very fact that I was opportune to be able to pursue a relaxing game after a stressful workday is what I like most about SSN. The freedom we enjoyed as students was unparalleled and allowed us to grow and mature. Now that I have graduated from SSN and come abroad, I often find myself reminiscing about my time there. It's funny how the things that seemed like a big deal back then, now seem so trivial. Life was simple back then, and I miss it. I remember the mess food wasn't always great, but I have to admit that I've had worse since I've been abroad. And while I had to deal with a lot of assignments back then, pursuing higher studies has made me realize that it was just the beginning. The early morning classes and the tiring bus rides to college also seem like a distant memory now. But despite its flaws, SSN was a balanced environment that tried to bring out the best in a person. The faculty and the facilities were top-notch, and the freedom we enjoyed as students allowed us to explore and learn. Looking back, I realize how much I've grown and how much I owe to SSN for shaping me into the person I am today. In conclusion, SSN may not have been perfect, but it was a beautiful and balanced environment that provided us with the opportunities to learn and grow. I will always cherish my time there and remain grateful for the experience it gave me.

GAUTAM RAMESH OF BATCH 2018-2022 SHARES...

My journey from SSN College of Engineering to Georgia Institute of Technology has been an extraordinary one, replete with challenges, erudition, and evolution. I pursued my Bachelor's degree in Mechanical Engineering from SSN between 2018 to 2022. The prospect of joining the institution, renowned for imparting quality education and fostering an ethos of creativity and research, left me elated. The professors at SSN were exceptional, epitomizing amicability and supportiveness. They inspired us to think critically and creatively, imparting invaluable skills and knowledge. They demonstrated unwavering commitment towards ensuring that we received the highest quality education, making themselves accessible to us whenever we sought guidance or counsel. During my final year at SSN, I assumed the role of a core committee member of the Association of Mechanical Engineers (AME), providing me with an unparalleled opportunity to develop my leadership and managerial aptitude. As a core committee member, I orchestrated a multitude of events such as INVENTE, INSTINCTS, CRANK-X, and several other workshops. My involvement with AME facilitated my development in areas of people management, time management, event coordination, and teamwork. I am profoundly indebted to the faculty and management at SSN College of Engineering for equipping me with a comprehensive learning experience that has enabled me to pursue my Master's degree in Robotics at Georgia Tech. Without their unwavering support and guidance, I would not have been able to achieve my current standing. My experience at SSN has been instrumental in shaping my academic and professional aspirations, instilling in me a fervour for learning and innovation. I eagerly anticipate continuing my academic journey at the Georgia Institute of Technology, where I aspire to expand upon the foundation that I have received at SSN, augmenting my skillset and knowledge to actualize my career goals.

Competitions Update

"NO COMPETITION, NO PROGRESS"

Hackathon:

Link: Link_to_register

Quiz:

Link: Link_to_register

Case Study:

Link: Link_to_register

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