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ASPIRE

ACHIEVEMENTS IN SPORTS, PROJECTS, INDUSTRY, RESEARCH AND EDUCATION

MONTHLY NEWSLETTER OF
THE DEPARTMENT OF MECHANICAL ENGINEERING



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

From the HoD's desk.....



Dr. K S Vijay Sekar
Professor and Head,
Department of Mechanical Engineering

We are elated to share the February edition of Aspire!!

We profile Irving Langmuir an influential American chemist and physicist who won the Nobel prize in 1932 for his groundbreaking work in surface chemistry, thermodynamics, and atomic structure.

Great news for the SNF family that Kiran Nadar was awarded the prestigious Padma Shri for her pioneering contribution to the field of arts. It has been an inspiring journey of hers that has culminated in this national honour. It is nice to see SNU Chennai hosting an open house to showcase their facilities, best wishes to them.

Good to see that faculty continue their publications as well as students do well in placements in the backend of the season. I was invited as Jury at a CII Manufacturing Managers competition. Mech team continues to seek consultancy opportunities and to this effect a visit to Value ingredients, visit by RANE madras team, and SSS Pvt limited stand testimony to this. An innovation to solve carpal tunnel syndrome was on display at the IIT Hyderabad innovation event, by a team from Mech, who were winners at the SSN innovation day conducted last year.

Mech students share their triumph at the Model United Nations event at VIT. An alumnus shares his experience studying in US and another working for DOW chemicals.

Best Wishes for a blooming February,

KSV

vijaysekarks@ssn.edu.in



Irving Langmuir: Nobel laureate and pioneer in surface chemistry

Irving Langmuir, born on January 31, 1881, in Brooklyn, New York, was an influential American chemist and physicist. His groundbreaking work in surface chemistry, thermodynamics, and atomic structure earned him the prestigious Nobel Prize in Chemistry in 1932.

Langmuir, a graduate of the Columbia School of Mines, joined the General Electric (GE) Research Laboratory in 1906, where he spent most of his career. His revolutionary contributions to surface chemistry included the concept of monolayer adsorption and the development of the Langmuir isotherm, which described the relationship between gas pressure and adsorption on solid surfaces.

In 1932, Langmuir was awarded the Nobel Prize in Chemistry "for his discoveries and investigations in surface chemistry." His ability to bridge theory and experimentation had a profound impact on catalysis, colloid chemistry, and biochemistry.

Beyond his scientific achievements, Langmuir was known for effectively communicating complex scientific concepts to a wider audience. His Nobel Prize stands as a testament to his exceptional intellect, innovative thinking, and enduring impact on the world of chemistry and physics.

Langmuir continued his research at GE until his retirement in 1950. He passed away on August 16, 1957, leaving behind a lasting legacy. The Langmuir Laboratory for Atmospheric Research, established in 1967, honors his pioneering contributions to science. The recognition of his extraordinary contributions with the Nobel Prize remains a highlight in the history of scientific achievement.

Kiran Nadar Honored with 2024 Padma Shri for Artistry and Philanthropy

Kiran Nadar, a luminary in the realm of art curation and the distinguished founder-chairperson of the Kiran Nadar Museum of Art, coupled with her trusteeship at the Shiv Nadar Foundation, stands exalted among the recipients of the esteemed 2024 Padma Shri awards. With an extensive assemblage comprising 13,000 artworks, Nadar's indelible mark on the art world has been formally acknowledged.

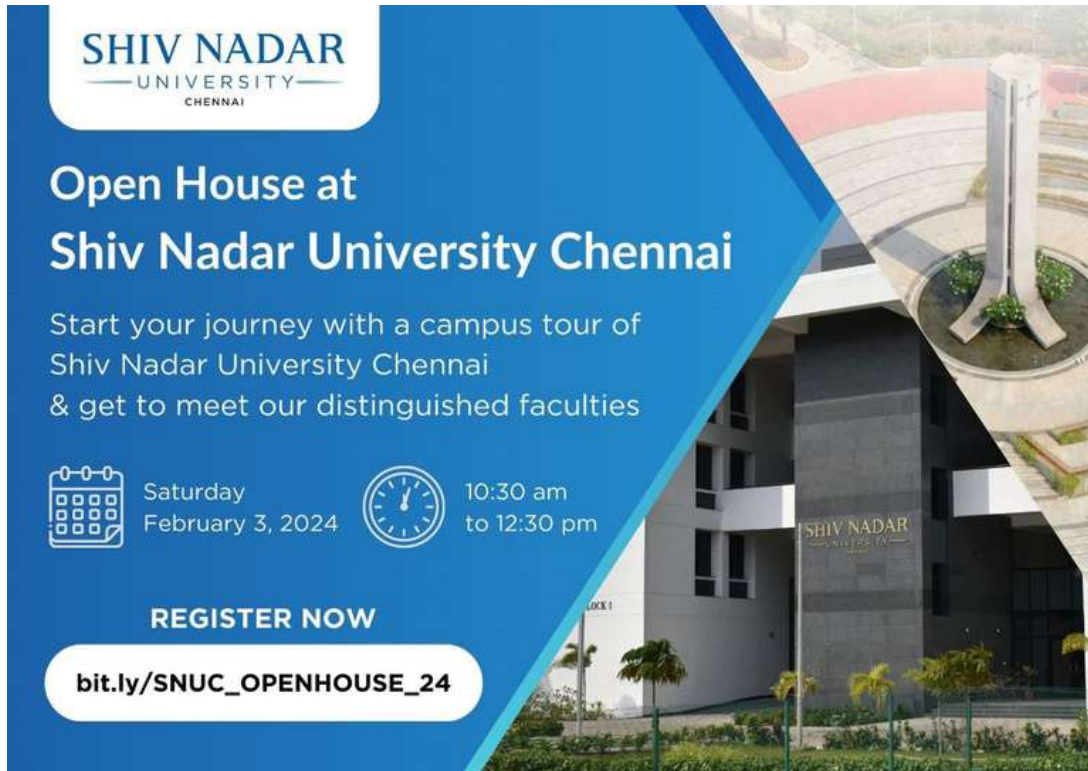


In a modest rejoinder, Nadar conveyed her elation at the recognition, underscoring that the Padma Shri was never a preconceived objective. She articulated, "Receiving this award is an exhilarating sentiment because I am being acknowledged for a pursuit I undertook. While I am gratified, I am not asserting that the Padma accolade will facilely pave my journey. No, these two trajectories are disparate; the odyssey must unfold organically."

Transcending her role as a collector, Nadar's ardor for art manifests in her zealous commitment to democratizing artistic access. As the propelling force behind educational enterprises, encompassing endeavours to dismantle deleterious perceptions surrounding art appreciation, Nadar aspires to disseminate erudition and kindle inspiration across a diverse spectrum.

In extolling Kiran Nadar's well-merited commendation, let us contemplate the profound ramifications of her initiatives in forging a nexus between art and community. Her unwavering dedication to nurturing art education and obliterating barriers resonates seamlessly with the ethos of our institution, urging us to embrace the transformative efficacy inherent in the realm of artistry.

SNUC hosts Open House for future students





The poster features the Shiv Nadar University Chennai logo at the top left. The main title 'Open House at Shiv Nadar University Chennai' is prominently displayed in white text on a blue background. Below the title, it describes the event as a campus tour and a chance to meet faculty. The date and time are listed as Saturday, February 3, 2024, from 10:30 am to 12:30 pm. A 'REGISTER NOW' button with the URL bit.ly/SNUC_OPENHOUSE_24 is provided. The background of the poster shows a modern university building and a large, circular architectural structure.

SHIV NADAR
UNIVERSITY
CHENNAI

Open House at Shiv Nadar University Chennai

Start your journey with a campus tour of
Shiv Nadar University Chennai
& get to meet our distinguished faculties

 Saturday
February 3, 2024  10:30 am
to 12:30 pm

REGISTER NOW

bit.ly/SNUC_OPENHOUSE_24

Inviting all aspiring students to visit our Open House on the 3rd of February to see what their future at Shiv Nadar University Chennai looks like

Register by visiting https://bit.ly/SNUC_OPENHOUSE_24

Know More: <https://www.snuchennai.edu.in/>

Mechanical Engineering - Class of 2024

Mukund Chowdary Kode got placed in Strategic Research Insights



Everstage is a modern, no-code platform to automate commissions and motivate sales teams with real-time visibility and insights on their commissions.

Raaghul K got placed in Embrizon Technologies



Embrizon Technologies is a leading provider of comprehensive educational programs designed to empower individuals in turning their entrepreneurial ambitions into reality. They aim to equip the next generation with the tools needed to thrive in an ever-evolving digital landscape.

Baghyashree and Sathya Nanth got placed in DevTown



Baghyashree P



In the heart of Bangalore's tech hub, Devtown was founded with a vision to revolutionize education through technology. Devtown is driven by a singular mission: to democratize education and create a world where learning knows no boundaries.



Sathya Nanth

Prathik and Santhosh got placed in Corizo EduTech



Prathik Arulraja



Empowering Tomorrow's Leaders

Corizo is an edtech platform that helps students with internships, professional training programs, career guidance, and mentorship.



Santhosh M

Anbarasu, Priyan and Shreenivasan got placed in Voltas Limited



Anbarasu Velu



Priyan M



Shreenivasan P

VOLTAS

Voltas Limited is an Indian multinational home appliances company headquartered in Mumbai. It designs, develops, manufactures and sells home products such as Air Conditioners, Air Coolers, Washing machines, etc.

International Journal Publication - SCI /Clarivate Indexed



Kumar, Arun, and KS Vijay Sekar. "Influence of scandium interlayer on the mechanical and metallurgical characteristics of friction stir welded AA1200-H14/Sc/AA6061-T6." *Materials Research Express* (2024).

Clarivate Impact Factor: 2.025



Figure 2. (a) Friction stir welding machine (b) FSW Process (c) Welded area of the plate (d) 17 trails and confirmation welded samples.



Singh, Rishav Raj, Divya Zindani, and Saikat Ranjan Maity. "A Novel Fuzzy-Prospect Theory Approach for Hydrogen Fuel Cell Component Supplier Selection for Automotive Industry." *Expert Systems with Applications* (2024): 123142.

Clarivate Impact Factor: 8.5

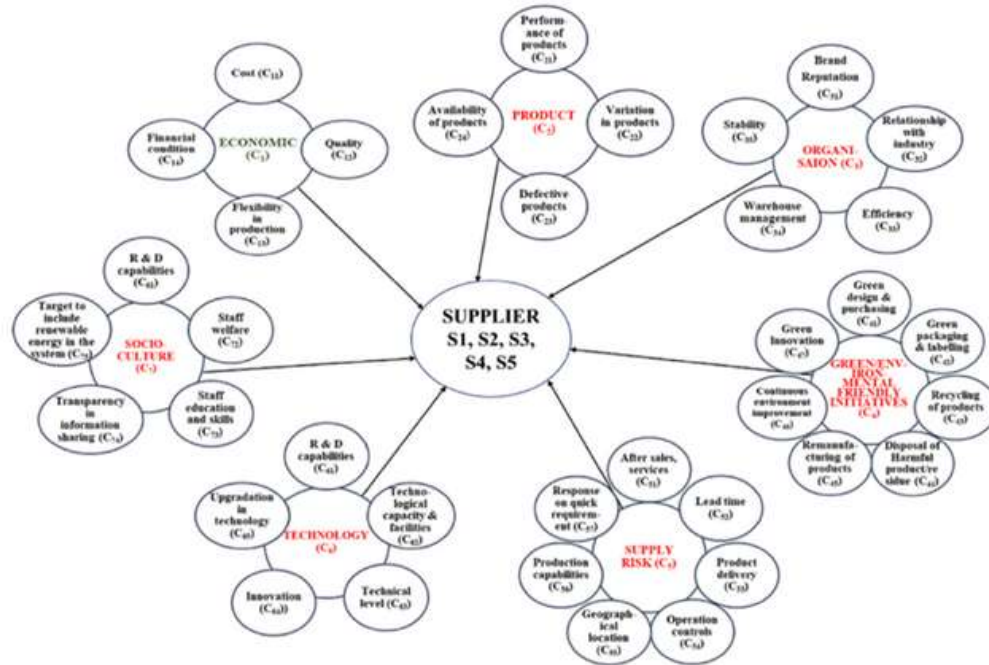


Fig. 3. Brief diagram for suppliers, criteria, and sub-criteria.

Scopus Publication

Agari, Shailesh Rao, Avinash Lakshmikanthan, Chithirai Pon Selvan, and KS Vijay Sekar. "Improvement in the Machining Processes by Micro-Textured Tools during the Turning Process." Engineering Proceedings 61, no. 1 (2024): 2.

Scopus Impact Factor: 0.3

Dr. KSV invited as Jury member at CII Tamil Nadu event!!

I was invited for the second time in a row, to be part of the Jury for the Young Manufacturing Managers competition, an annual event organized by CII Tamil Nadu. The marquee event held on January 18th February 25th at Hotel Ramada Plaza, Chennai saw as many as thirty-three corporate teams participate in an intense competition to win top honors.

The young manufacturing managers were drawn from flagship companies like Hyundai, Titan, Ashok Leyland, Saint Gobain, Daimler, Simpsons etc. The event brought to the forum current problems and solutions and doubled up as knowledge sharing platforms for all the members gathered. Managers had the opportunity to exhibit their talent and leadership skills and thereby win recognition of their potential to excel and lead.

The theme of the event was “Manufacturing Competitiveness for a Sustainable Future with focus on Cost, Quality & Sustainability and open to Young Managers under 35 years of age with the Team leader having a minimum of 5 years Industrial experience. It was a learning experience for all, and CII hopes to include more teams from other regions as well in its future events.

Thanks to CII for inviting me as a Jury member and to Dr. VE Annamalai, Principal, SSNCE for networking me with the organizers.



Visit to Value Ingredients Pvt. Ltd.

A team of 7 from SSNCE (Dr. Shashikant Albal, Mr. T S Giridharan, Dr. Chandrabose Aravindan, Dr. V. Sivamurugan, Dr. I. Joe Louis Paul, Mr. J Dheepan and Dr. Satheesh Kumar Gopal) visited one of the Value Ingredients Pvt. Ltd. plant, at Ambattur on 18.01.2024. The meeting was hosted by Mr. Sijin, the founder member. Initial discussions led us to hear the success stories followed by the problems faced by the industry. The major problems for which they seek solutions are:

- Removal of dust related to pungency: Measure, Separate and Remove.
- Removal of calyx from getting into chilli flakes (< 1%): They have already achieved < 4%.
- Automation for loading and unloading bags into containers: At least 6 people are involved.
- IoT based pressure measurement at Destoning process: Existing process is manual, error prone.
- Metal and plastic detector for packaged bags: IoT based scanning solution for finished bags.



The energetic discussion was followed by a walk-through visit of the plant. The plant showcased modern methodologies adopted at various stages of manufacturing. We were also specifically shown the problem areas, discussed during the meeting earlier. Though being the technologists, the complexity in getting the simplest of the things found in any kitchen, chilly and turmeric powder, from raw material to finished stage put us in amazement. In spite of the mask, disposable hood and shoe covers provided, the pungency was very prominent and deserves immediate efforts for solution.

We happened to meet a few of our students, pursuing internship from January 1st week and had casual discussions. Later we had a sumptuous meal and left for the day. Further meetings at our institute on the problems and prioritization would happen eventually.

To consolidate, the problems are very peculiar and very challenging too, given the environment in which we need to operate. It needs interaction across the domains and expertise beyond the regular research to move towards any plausible solutions.



Visit by SSS Pvt. Ltd.

A team of 2 from SSS Pvt. Ltd. (Mr. Vijay and Mr. Suresh) visited SSN on 20.01.2024. The meeting was hosted by iFound (Mr. T S Giridharan and Mr. J Dheepan) and attended by Dr. Satheesh Kumar Gopal.

They have developed an ATM equivalent for gold/silver/platinum ornaments-based loan vending machine. The user deposits their ornament, the machine then evaluates the purity & stones and intimates the loan amount. The user then submits all the legal docs online, gets validated and then receives the chosen amount. The machine then packs the ornament for safe storage. They have filed 5 patents on this technology (1 granted).

This was a focused meeting and the major problems for which they seek solutions are:

- Usage of robot for collection, handling the valuables
- Automation for packaging the valuables

They have invited us to visit their office to get a clear understanding of the machine. Further meetings towards the probable consultancy would happen eventually.
eventually

SSN Team Shines at InvenTiv 2024 with Innovative Healthcare Solution

InvenTiv 2024, a two-day R&D innovation fair at IIT Hyderabad on January 19-20, organized by the Ministry of Education, showcased from 50 top Indian higher education institutions. Themed "Holistic Impact of R&D and Innovation in Higher Education Institutions," the event attracted 3000 attendees from industry, government, academia, and media. Key highlights included a technology transfer agreement between IIT Hyderabad and E-Spin Nanotech and participation from industry leaders like Google and Microsoft.



Our dedicated team, led by Dr. R. Vimal Sam Singh, Dr. Esther Florence, Muthuvelan Mutharasu, and Mathusha Rao, had the honor of presenting our groundbreaking solution to prevent carpal tunnel syndrome, recognized among the top 30 affordable healthcare innovations in the country. During the event, we had a unique opportunity to interact with the honorable Education Minister of India, Shri Dharmendra Pradhan, where we had the privilege to explain the intricacies and impact of our project. This engagement further emphasized the societal importance and potential of our work in preventing health issues at an affordable scale. As part of InvenTiv 2024, we not only contributed to the innovation landscape but also fostered meaningful connections and collaborations for the future.

Non Teaching Staff activities

23/01/2024	Mr. Balasundaram P / Asst lab Instructor / Mechanical / Completed Alison Online course Problem solving and critical thinking skills on the 23rd of January, 2024.
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Scholar Information

20/01/2024	Dr. S. Rajkumar, ASP/Mech conducted the PhD public viva voce examination for his part time research scholar Mr. H. Karthick on 19.01.2024
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International Conferences attended

22/01/2023	<p>Dr. R. Prakash, ASP/Mech, presented a paper titled "Performance Analysis of the Photovoltaic Grid-Connected System using PVsyst Software" at the International Conference on Green Energy and Sustainable Technologies (ICGEST-2023) organized by the Electrical Engineering Department, National Institute of Technology (NIT) Kurukshetra, during 05-07 January 2024.</p> <p>(Co-authors: Mr. P. Rohan Samuel David, M.E. Energy Engineering- 2022 passed out, and Mr. A. Surya, Research Scholar)</p>
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Projects Sanctioned

22/01/2024	A project titled "Design and development of a battery cooling module using hybrid heat pipe technology for an electric vehicle" applied by Dr. Micha Prem Kumar received approval by SERB with a budget of 15 Lakhs .
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International Conferences attended

<p>14/01/2024</p>	<p>D Arunkumar and K S Vijay Sekar published a paper titled “Influence of scandium interlayer on the mechanical and metallurgical characteristics of friction stir welded AA1200-H14/ Sc/AA6061-T6” in the journal Materials Research Express.</p>
<p>25/01/2024</p>	<p>Shailesh Rao Agari , Avinash Lakshmikanthan , Chithirai Pon Selvan and K S Vijay Sekar published a paper titled “Improvement in the Machining Processes by Micro-Textured Tools during the Turning Process” in the journal Engineering Proceedings.</p>
<p>25/01/2024</p>	<p>Rishav Raj Singh, Divya Zindani, Saikat Ranjan Maity published a paper titled “A novel fuzzy-prospect theory approach for hydrogen fuel cell component supplier selection for automotive industry” in the journal Expert Systems With Applications.</p>
<p>27/01/2024</p>	<p>A S Ramana published a paper titled “Recent Trends in PCM-Integrated Solar Dryers ” in the journal Engineering Proceedings.</p>

Other Information

<p>08/01/2024</p>	<p>Dr. Satheesh Kumar Gopal delivered an invited talk on "Smart systems for Agriculture" on 06-01-2024, at the Indo-Israel Workshop on "Network Reliability in WSN for Agricultural Applications" Sponsored by Scheme for Promotion of Academic and Research Collaboration (SPARC), MHRD, GoI during January 5-9, 2024 organized by the Department of Electronics and Communication Engineering, SSNCE.</p>
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SSN-SNUC MUN Society Triumphs at VLSMUN 2023

By: Anirudh Kriishnan , Third Year

The SSN-SNUC MUN Society sent a delegation to the VIT Law school VLSMUN in November 2023 held at VIT – Chennai. This event saw the participation of around 300 students from VIT Vellore, SRM, VITC, HITS, SVCE across 6 committees. Our SSN MUNSOC comprised of about 45 delegates distributed among these committees. We were declared overall winners and were given the best delegation trophy. This makes it special as it is our college's first best delegation award in a renowned college MUN. Raghav Subramaniam and Anirudh Kriishnan (3rd years from the mechanical department) had secured a high commendation award in UNSC and DISEC committees respectively. Overall, this was a great and enjoyable learning experience for everyone that participated.

An MUN is a simulation of the proceedings of the actual United Nations, fostering formal discussions aimed at promoting global peace through cooperation and diplomacy. The simulation adheres to a set of rules and formats that are simple to understand. They are very fun to take part in as well. Attending an MUN proves to be a valuable experience as it facilitates networking with a variety of individuals from different institutions, enhances public speaking skills, and broadens general knowledge. Moreover, participants get amazing food as well as awards and cash prizes if they perform well.

The key to improvement lies in gaining experience through active participation in multiple MUNs. Engaging with regular MUN participants from our college's MUN Society will provide valuable insights into the dynamics of these events. Workshops are also conducted regularly to assist participants in honing their skills and boosting their confidence.

Anyone enthusiastic about public speaking is strongly encouraged to participate in MUNs. Preparation is made straightforward with the provision of a background guide, and the willingness to speak is the only prerequisite. As we gear up for upcoming MUNs in Chennai, such as VITCMUN and SRMMUN, we aim to maximize participation from our college and department. Registering is a seamless process – interested individuals can contact us through the provided details, and we'll add them to the relevant WhatsApp groups. Here, all necessary registration details and preparatory documents will be shared for a smooth and successful MUN experience.

Alumni Spotlight

Featuring: Venkata Surya Sashank, Batch of 2022

Dear SSN Alumni,
I trust this message finds you in good health. Allow me to share a snapshot of my journey since leaving SSN College of Engineering.

After completing my Bachelor's in Mechanical Engineering from SSN (2018 - 2022), I embarked on a new chapter at North Carolina State University. Currently pursuing a Master's in Financial Mathematics, I anticipate graduating in December 2023.



In the realm of projects, I've been working on a web application focused on visualizing technical indicators using Python. The aim is to offer a free and open-source tool for financial engineers to understand these indicators' nuances in trade execution. Additionally, I led a team at NCSU in proposing a novel neural tensor network for sentiment analysis in stock price prediction, achieving an impressive 97% accuracy in predicting news headline sentiments.

Proficient in Python, R, C++, and SQL, I'm actively seeking opportunities in Quantitative Analytics and Data Science. My experiences as a Statistical Data Analytics Intern at Arch MI and a Quantitative Trading Intern at Saravana Stocks have equipped me with practical insights into building predictive models and developing automated trading strategies.

Feel free to explore my work on GitHub at github.com/suryasashankgundepudi. I'd love to connect with fellow alumni, share experiences, and explore potential collaborations.

Proud to be a part of the SSN community. Looking forward to the possibilities that lie ahead.

Best wishes,
Venkata Surya Sashank

Alumni Spotlight

Featuring: Nandita S, Batch of 2022

Hello SSN Family,
Hope this message finds you all well! It's Nandita S, part of the vibrant Batch '22, reaching out with an update on my journey post-SSN.

Currently, I proudly wear the hat of a Hardware Discipline Engineer at DOW, a role that seamlessly blends my interests and challenges me to grow. My journey here started as an intern from June 2021 to August 2021, and it's been an incredible transition to my present role.



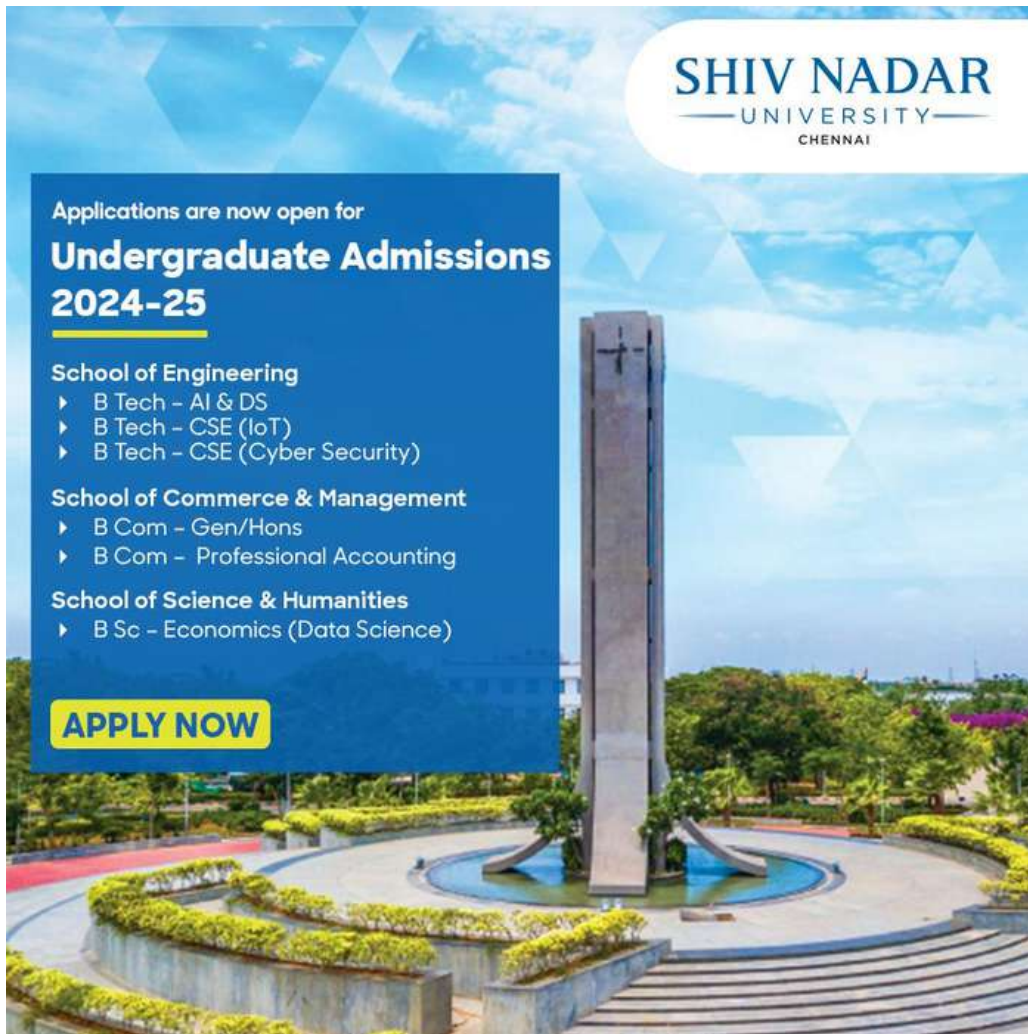
I owe a significant part of my professional growth to the solid education and mentorship I received at SSN. To the professors, thank you for being the guiding force behind our academic journey. Your teachings continue to resonate and shape my approach to challenges in the industry.

To my fellow Batch '22 mates, I'm eager to reconnect and hear about your unique journeys. Let's share stories, insights, and continue supporting each other as we navigate the exciting world beyond SSN.

Here's to growth, learning, and the lasting bonds forged during our SSN days!

Best wishes,
Nandita S

SNU admissions for 2024



SHIV NADAR
UNIVERSITY
CHENNAI

Applications are now open for
**Undergraduate Admissions
2024-25**

School of Engineering

- ▶ B Tech - AI & DS
- ▶ B Tech - CSE (IoT)
- ▶ B Tech - CSE (Cyber Security)

School of Commerce & Management

- ▶ B Com - Gen/Hons
- ▶ B Com - Professional Accounting

School of Science & Humanities

- ▶ B Sc - Economics (Data Science)

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Applications for UG Admissions 2024-25 Open at Shiv Nadar University Chennai.
Apply online at <https://apply.snuchennaiadmissions.com/>

No Competition, No Progress

Bussiness Plan :

[Link: Register here](#)



CAD Battle:

[Link: Register here](#)



From the desk of Ramki – Aspire to Inspire

From Ramki

Happy Morning – Aspire to Inspire



The law of life is “ When the lower is pushed , the higher delights”. For example when the body is pushed beyond its perceived limits, the mind delights. When the body tells you “ I can’t walk one more block, I can’t run another lap , I can’t trek any more , and then when it is pushed beyond its perceived limits and it walks that additional block, runs another lap and treks further- the mind delights.

Against the pleading of your body when you do a few more push-ups or a few more reps of the bicep curls or another dozen squats- the mind delights. When the lower- the body is pushed, the higher- the mind delights.

So, what I am trying to say ?

There is always this inner intellectual conflict between our instincts and conscience. Our instincts ask us to follow the path of “ Pain & Pleasure” while our conscience demands us to follow the path of “ Right & Wrong”. It is this that causes the intellectual split in us. What we call as guilt is nothing but the disapproval of the “ Knower” in us to an act of the” Doer” in us; that is when the conscience doesn't endorse the instincts.

Resolving this split and living as an integrated person is the struggle of the intelligence, but it is the delight of the higher- Emotional Personality.

#WishingMostAndMore

Have a great day & wonderful weekend



Dr. M S Alphin



Dr. Satheesh Kumar G



Kavya S



Harish S



Abirami Subbiah



Magari R



Mithila V



Feedback to aspire@mech.ssn.edu.in