VOLUME 14 | MAY 2024



ACHIEVEMENTS IN SPORTS, PROJECTS, INDUSTRY, RESEARCH AND EDUCATION

DEPARTMENT OF MECHANICAL ENGINEERING

188UE **05**



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 happy to share the May edition of Aspire!!

We profile Svetlana Alexievich who was awarded the 2015 Nobel prize in literature for her path-breaking work in telling oral histories of world events like the Chernobyl disaster or the world war.

I am glad to share that our faculty Dr Vimal Sam Singh has been shortlisted in the Top 12 among 134 entries by the IITMIC Kriative innovation awards 2024. SSN Biomedical student Lindhya made the institution proud with her AIR 354 in Civil Services. SSN celebrates the annual college day, with meritorious students from academics, sports, and extra-curriculars getting awards.

It is a happy moment for the Mechanical Department that Keshav Pillai was chosen as the best outgoing student of SSN for 2024. It is also good to see our students getting a good placement and internship offers from reputable companies. Our faculty members have organized workshops on composites and machining technology, attended a course on artificial intelligence on materials engineering, and the global hyperloop conference at IITM to augment their learning and research capabilities. A team from Valeo company spoke on vibrations as part of the institute-industry relationship building.

Our students are excited to share their experiences in the CII commercial vehicle summit 2024, winning an innovative competition called Anveshana, higher studies to Canada. Alumni shares his journey outside SSN!!!

Best Wishes for a blooming May, KSV vijaysekarks@ssn.edu.in



UNVEILING HISTORY: SVETLANA ALEXIEVICH'S JOURNEY THROUGH NARRATIVES

Svetlana Alexievich, born in 1948 in Ivano-Frankivsk, Ukrainian SSR (now Ukraine), has carved out a distinctive niche in the realms of journalism and literature. What sets her apart is her unconventional storytelling method, which revolves around oral history.

Alexievich's academic journey began with her pursuit of journalism studies at Belarusian State University in Minsk. It was here that she laid the groundwork for her future endeavors, honing her skills in narrative craft and investigative reporting. This educational background would prove instrumental in shaping her approach.

Upon entering the world of journalism, Alexievich quickly made a name for herself as a perceptive chronicler of human stories. Her approach was refreshingly hands-on: she sought out individuals who had directly experienced the seismic shifts of Soviet history, from the aftermath of Chornobyl to the ravages of war. Through extensive interviews and meticulous research, she wove together a rich tapestry of narratives that offered a deeply human perspective on historical events What distinguishes Alexievich's work is its empathetic and intimate portrayal of ordinary people thrust into extraordinary circumstances. In books like "Voices from Chernobyl" and "War's Unwomanly Face," she gives voice to those whose stories might otherwise have been lost to history. Her writing is characterized by a rare combination of empathy, insight, and narrative skills, inviting readers to step into the shoes of her subjects and experience history through their eyes.

In 2015, Alexievich's groundbreaking contributions to literature were recognized with the Nobel Prize in Literature. This prestigious accolade not only affirmed the value of her work but also highlighted the power of oral history as a literary form, bearing witness to the human experience, ensuring that the voices of the past continue to resonate in the present.

Campus Update

DR. VIMAL SAMSINGH SELECTED FOR IITMIC KRIA'

Dr.Vimal SamSingh has been selected for the prestigious IITMIC KRIA'tive Innovation Awards 2024, hosted by IIT Madras Incubation Cell and KRIA Law. Dr. Vimal SamSingh's innovation was chosen among 134 submissions from startups and innovators across India, placing him among the Top 12 in the Technology Innovation a tremendous This is category. accomplishment! Dr.Samsingh's win inspires aspiring innovators, driving forward the ethos of progress and creativity in technology.



FROM CAMPUS TO CIVIL SERVICE: lindhya OF SSN BATCH 2016-2020 shines in UPSC We are thrilled to share the ext



We are thrilled to share the extraordinary accomplishment of LINDHYA, а distinguished student of our college and a talented squash player, who has made us proud by achieving an exceptional rank of AIR 354 in the UPSC examination. LINDHYA, who graduated from the SSN Batch 2020 with a degree in Biomedical Engineering, has demonstrated remarkable dedication and perseverance in conquering this prestigious examination By excelling in both academics and sports, Lindhya exemplifies the wellrounded individuals that our college aims to nurture and develop. We extend our heartfelt congratulations to Lindhya on this remarkable milestone and wish them continued success in their future endeavors

Campus Update

SSN COLLEGE DAY'2024

ISSN College of Engineering's College Day at the illustrious Justice Pratap Singh Auditorium buzzed with excitement from 9 AM to 12 PM, uniting students, faculty, and distinguished guests in celebration. Chief Guest Senthil Nathan from L&T set the tone with a prestigious introduction, followed by the principal's comprehensive college report showcasing faculty and student achievements. Student presidents then took the stage, passionately sharing departmental triumphs.

Senthil Nathan delivered an inspiring address, urging attendees to embrace innovation. The ceremony crescendoed with the presentation of academic awards, recognizing exemplary performance during the 2023-2024 academic year. Student presidents were honored for their leadership, and extracurricular achievers celebrated with fervor.

The event culminated in the recognition of the best outgoing students, marking the end of their journey at SSN College of Engineering and the dawn of new adventures. SSN's commitment to excellence and holistic student development shone through, making the College Day a memorable testament to the institution's values.



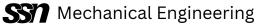


Campus Update

KESHAV PILLAI RECEIVES THE "BEST OUTGOING STUDENT OF THE COLLEGE : SSN AS WELL AS DEPARTMENT" AWARD





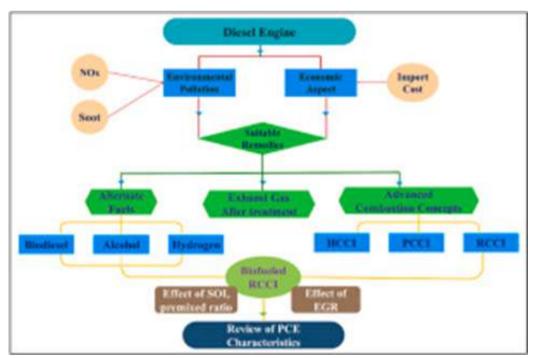


Department Update

International Journal Publication - SCI /Clarivate Indexed



M. Gowthama Krishnan, S. Rajkumar, Y. Devarajan and Asha Rajiv. "A comprehensive review on advancement and challenges of renewable bio fuelled reactivity controlled compression ignition (RCCI) engine." Journal of Energy Institute. 113, pp:101540. Clarivate Impact Factor: 5.7



Scopus Publication

D.Ananthapadmanaban, T.R.Vijayaram. "Indian Education in Materials Science-Problems and Perspectives". GIS Science Journal. Volume 11, Issue 4, pp 145-155. Scopus impact factor: O.

MECHANICAL ENGINEERING – CLASS OF 2024 PRATHIK ARULRAJA got placed in CUB (City Union Bank)



City Union Bank is a privatesector bank headquartered in Tamil Nadu, India. Founded in 1904, CUB has a rich legacy of offering banking services and has evolved into a respected financial institution in India.

RAMNATH VENKATESH got placed in ROCKETLANE

Rocketlane is a company specializing in customer onboarding and success, streamlining the process for businesses. They excel in simplifying complex workflows and enhancing customer experiences with innovative solutions.





VIGNESH S got placed in ST TELEMEDIA GLOBAL DATA CENTRES

ST Telemedia Global Data Centres (STT GDC) is a leading provider of data centre solutions worldwide, offering robust infrastructure and connectivity services. Their cutting-edge facilities ensure secure and scalable environments, supporting businesses with reliable and efficient data management.







INTERNSHIP REPORT MECHANICAL ENGINEERING – CLASS OF 2025

CAMPERVAN FACTORY Pvt Ltd



IIT MADRAS Incubated company



AK SHARAN KUMAR



ASHWIN VARADHARAJAN



HARI SHANKAR RENGANATHAN



A VIGNESHWAR



KEVIN JUDE A











R S SHRI SABARISH SURENDRA KUDLU

THOUSHICK RAM

UVARAJ G S

CATERPILLAR INDIA Pvt Ltd



MITHILA V



BHAVANI K





MUPPALLA VENKATA SIRI



NEELA MEGHA BHAVANI



PRECISION HYDRAULICS





JAGATHRATCHAGAN S

DOW CHEMICALS



ABIRAMI SUBBIAH

RISHI KRANTI R



NEOMOTION ASSISTIVE SOLUTIONS PVT LTD





TAMILKUMARAN S



SAIRAM R SURESHBABU



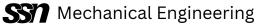
VEDHANTH KESHAV MANOHARAN

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YUVALAKSHMI N NAVSON TECHNOLOGIES





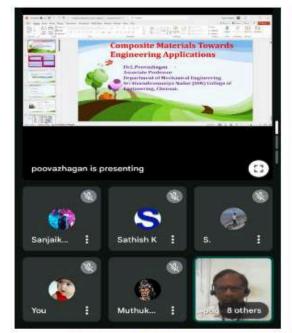
ADVAITH SUDEEP

ONE DAY WORKSHOP ON ADVANCES IN COMPOSITE MATERIALS AND MACHINING TECHNOLOGY

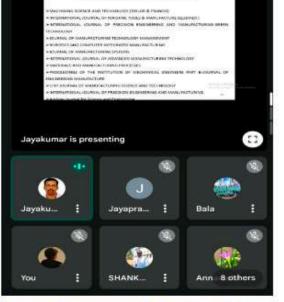
One day online workshop was organized by the Department of Mechanical Engineering on 12.04.2024. More than 30 participants from various colleges including St. Joseph College of Engineering, St. Anne's College of Engineering and Technology, AMET University, KCG College of Technology, Panimalar Engineering College, Siddharth Institute of Engineering & Technology, and SSNCE have registered and attended the workshop.

Dr L. Poovazhagan, delivered the first keynote lectures on the topic of composite materials and its Engineering applications. Dr K. Jayakumar delivered lectures on the topic of Machining of composite Materials. Both the lectures were received well by the participants. Two YouTube videos were shared to the participants. These videos demonstrate the fabrication of MMCs and PMCs.









Session on Machining studies on composites



DR L POOVAZHAGAN INVITED AS THE CHIEF GUEST FOR THE NATIONAL CONFERENCE AT VEL'S UNIVERSITY

Dr L. Poovazhagan, Associate Professor, Mechanical Engineering was invited as chief guest for the one-day national conference (NATIONAL CONFERENCE ON RECENT TRENDS IN MECHANICAL ENGINEERING) organized by the department of Mechanical Engineering, Vel's University, Pallavaram, Chennai on 22.04.2024. Delivered a keynote lecture on the topic of "RESEARCH AVENUES IN NON-TRADITIONAL MACHINING PROCESSES". Recent advancements in laser, electrochemical, and ion beam machining were demonstrated in the session. Around 50 participants from various colleges/universities attended the lecture. The keynote session was very interactive.



TWO DAY WORKSHOP ON VIBRATION





Valeo experts for Vibration Analysis Workshop:

Date: April 1-2, 2024

Experts: Dr. Alphin M S and Dr. Nalla Mohammed

Highlights: Practical sessions on vibration analysis techniques, including frequency spectra and condition monitoring.

MECH FACULTY ATTEND COURSE ON "AI IN MATERIALS ENGINEERING – KSV REPORTS...

I attended a much-needed two-day course on "AI in materials engineering" along with my colleagues Dr SRK Rao and Dr R Damodaram, organised exceedingly well by the Indian Institute of Metals with the support of IITM and IGCAR. The two-day event was an eye-opener of sorts, showcasing real-time studies on the application of AI, and ML in the field of material and material processing, throwing some interesting futuristic possibilities and tools for research. The tightly packed event was a success in every sense of the word and gratitude is due to the organisers, specifically Prof Kamaraj from IITM and Dr Vasudevan from IGCAR and Dr Rohit Batra, IITM and other esteemed coordinators. AI and ML were as key to the networking potential of such events!!Looking forward to advance level courses in this field!!



HOD ATTENDS GLOBAL HYPERLOOP CONFERENCE

I had an opportunity to be amidst the global hyperloop conference held at IITM Research Park. I lay witness to the threshold of future fast-paced travel - the hyperloop, capable of speeds over 1000km/hr and the numbing possibilities of reaching Bengaluru in under 30 mins. With far-reaching global trade accelerations and potential for lowering carbon emissions, the hyperloop has the promise of a sustainable mode of fast transport that lessens the energy burden on the planet. Great to see IITM taking the lead with tremendous enthusiasm and well supported by the Indian railways, L&T, SAE India and of course the government of the day. With a 422m test bed, the announcement of the global hyperloop competition is an exciting prospect for student teams across the country and world and at SSN Mechanical I look forward to seeing the SAE team take the initiative to participate with full vigour!!!





VALUE ADDED COURSE: FOUNDATION COURSE ON DESIGN OF EXPERIMENTS – Dr ZINDANI REPORTS....

The Department of Mechanical Engineering at Sri Sivasubramaniya Nadar (SSN) College of Engineering, Kalavakkam, organized a comprehensive 15hour Value-Added Course on "Foundation Course on Design of Experiments" from March 12 to March 26, 2024.

Led by esteemed expert **Dr Jagadish** from the **Indian Statistical Institute**, **Bangalore**, this course provided participants with in-depth knowledge and practical skills in experimental design methodologies. Coordinated by Dr. Vijay Sekar K.S. (HOD, Department of Mechanical Engineering, SSNCE) and Dr. Divya Zindani the course covered essential topics, including:

- Introduction to DOE
- Full factorial experiments
- Fractional factorial experiments
- Taguchi Design
- Plackett Burman Designs
- Linear regression
- Response surface methodologies

Participants from diverse engineering streams and arts and humanities backgrounds benefited greatly from this course, equipping themselves with both theoretical knowledge and practical skills in experimental design.





Non Teaching Staff activities

| 03/04/2024 | Mr. Balasundaram P / Assistant Lab Instructor / Mechanical / Attended one-day webinar on "grievance management system" through online (Wednesday) |
|------------|--|
| 23/04/2024 | Mr. Balasundaram P / Assistant. Lab Instructor / Mechanical /Master of Engineering Manufacturing Course (Part-time) / first semester passed result with 9.5 CGPA in AVIT college Paiyanur, Kanchipuram, Tamil Nadu, 603104. |

International Conferences attended

| 12/04/2024 | M. Gowthama Krishnan, S. Rajkumar, Y. Devarajan, and Asha Rajiv published a paper titled "A comprehensive review on advancement and challenges of renewable biofueled reactivity controlled compression ignition (RCCI) engine" in the Journal of Energy Institute. |
|------------|---|
| 25/04/2024 | D.Ananthapadmanaban, T.R.Vijayara published a paper titled "Indian Education in Materials Science-Problems and Perspectives" in the GIS Science Journal. |

EVENTS AND WORKSHOPS

| 12/04/2024 | Dr. L. Poovazhagan, Dr. K. Jayakumar, and Dr. K. S. Jayakumar, Associate Professors, in the Department of Mechanical Engineering, organized a one-day workshop titled "Advances in Composite Materials and Machining Technology". |
|------------|---|
| 15/04/2024 | Dr. KL. HARI KRISHNA, Associate Professor, and Dr. Jaya Kishan B, Assistant Professor, accompanied third-year students for an industrial visit at Lincoln Electric Pvt. Ltd at Mahindra City, Chengalpattu. |



Student Corner

YASHWANTH KARTHIK FROM THE SECOND YEAR WRITES....

The inaugural session of the CII CV Summit 2024 kicked off at Hotel Feathers in Chennai on April 25, 2024, focusing on burgeoning opportunities within the Commercial Vehicle (CV) Industry for academia. Under the theme "Driving your career: The CV way," the session commenced with an address by Mr. Pradeep Kumar Thimmaiyan, President & Chairman of Daimler India Ltd, who emphasized the growing interest among students in heavy vehicles and the rise of autonomous commercial vehicles. He highlighted the transformation of vehicles into advanced gadgets, stressing the pivotal role of mechatronics in modern automobiles and the importance of interdisciplinary collaboration.



Continuing the discourse, Mr. Yeshwanth Kumar Kini, Chief Human Resource Officer of Daimler India Ltd, advocated for increased female participation in mechanical fields and discussed the competitive landscape in talent acquisition, referred to as a "war for talent." He spotlighted Daimler's dedication to talent development through its "campus to corporate" programs and global mobility initiatives, emphasizing the promising prospects within the CV industry.

Offering a distinct viewpoint, Mr. Ramanathan Srinivasan, Managing Director of Automotive Test Systems, emphasized the importance of aligning engineering curricula with industry trends. He underscored the potential for hands-on learning and entrepreneurship within academia, citing his experience with an Electric Vehicle (EV) startup led by college students. He also unveiled "Autonom," a programming competition to foster innovation tailored to Indian automotive needs.

Student Corner

ADITHYA SHRI HARI R FROM THIRD-YEAR WRITES...

We are excited to share that our team clinched the 5th prize and a 10,000 rupees cash prize at the Anveshana project competition, hosted by the Agastya Foundation and Synopsis Company in Bangalore on February 28th and 29th, 2024. As the only team from Tamil Nadu, we outshone over 400 initial participants and 90 semifinalists, securing a coveted top 5 position. Our project, 'Akshayapatra -An Anna Sanchar (Novel Food Vending Machine),' aimed to combat food insecurity among underprivileged communities and reduce food wastage. The competition's unique format paired college students, including myself and my teammate Deepak, with government school students, allowing us to mentor them. Under the expert guidance of Dr. Vimal Samsingh, we navigated through challenging rounds to reach the finals. Mentoring these young minds was a rewarding experience, and our collaboration with Arul Thiagarajan, though unofficial, proved invaluable, particularly in the electronics domain. This competition has been an inspiring journey, motivating us to strive for greater achievements and bring more accolades to our college.





Higher Studies Corner

HARISH OF MECH'2024 SHARES...

"Hello," as General Kenobi might greet, I trust this message finds everyone well. I am Harish, a member of the dynamic graduating class of 2024. Here, I am eager to outline my post-SSN journey plans.

My fascination with engineering took root at the age of 11 when I meticulously assembled my inaugural RC Cessna 172 Skyhawk, despite an eventual crash during its maiden flight (a humorous anecdote in retrospect). This experience sparked a profound curiosity within me, prompting me to ponder, "What if I could independently craft something akin to this aircraft?" This curiosity steered me towards delving into the intricacies of design calculations, unveiling the captivating complexity of the engineering realm. As I laid the foundation of my knowledge, a series of events unfolded seamlessly, guiding me towards my current area of focus in mechanical engineering.



The intriguing undergraduate courses cultivated a mindset for me to work on these domains and make my mark, this decision motivated me to pursue research. Due to personal reasons, I decide to scour universities in Canada. One of the main reasons is the natural beauty that Canada offers. In addition, Canadian universities are relatively cheaper than their neighbors in the US, while not compromising on the quality of the curriculum.

My preparations began in May last year. I started by narrowing down universities that were focusing on research domains that were to my interests. The main advantage in Canada is the non-mandatory requirement of the GRE. With the Fall 2024 intake, most of the universities waivered the need for a GRE score.

I then took the IELTS exam. The IELTS exam has numerous online resources for preparation, that are free. My advice is basically to converse in English as much as possible and do something all of us love: Watch tons of movies, TV shows, etc in English without subtitles. I was able to score a score of band 8.5 overall. I worked on my Statement of Purpose and obtained my Letters of recommendation in parallel. By the end of November, I completed my applications and then there was nothing left to do but wait....

I was elated when I first saw offer letters from some of my dream universities. After careful consideration, I decided to accept the offer from the University of Ottawa. I am concluding this article by quoting, "If you can dream it, you can do it!!".

From Campus to Corporate: Navigating the New Professional Landscape

Featuring: Dhanush Muthu N Batch of 2023

College life is often romanticized, but the reality can be quite different. It's a time of rigorous academic schedules, maintaining grades, and engaging in extracurricular activities. The balance between studies and personal life is a tightrope walk, especially for day scholars. Then, the unexpected happened: a global pandemic. Those initial days of lockdown felt like a much-needed breather, but soon reality kicked in. Online classes, while commendable, couldn't quite fill the void left by face-to-face interactions and hands-on experiences, especially in the realm of laboratories. The relief of a break was swiftly replaced by the stark realization of what was lost — the irreplaceable value of in-person learning.



As the final year approached, the placement season loomed large. The lack of hands-on experience during the pandemic led to a re-evaluation of career choices, with many considering a shift from their core fields to IT. The pressure of final year projects added to the already mounting stress. Interviews were daunting, and the first few attempts often ended in disappointment. But amidst the chaos of final year projects and self-doubt, perseverance prevailed, leading to that golden ticket: a job offer from KBR, a dream realized through sheer grit and determination.

The professional environment is a crucible for growth, where every task and interaction are an opportunity to learn and refine one's skills. The oil and gas industry, known for its stringent standards, requires a level of detail and expertise that can be daunting for newcomers. Adapting to this new world means embracing a continuous learning mindset, seeking feedback, and being proactive in taking on new responsibilities. It's about finding one's place in a complex ecosystem, building relationships, and contributing meaningfully to team objectives.

But amidst the uncertainty lies the thrill of the unknown, the promise of growth and resilience. Will we rise to the occasion, meeting the expectations placed upon us, or will we falter under the weight of our ambitions? The answer remains uncertain, but one thing is clear: we've faced challenges before, and we'll face them again, armed with nothing but determination and a thirst for success.

Forthcoming Corner

SSN admissions for 2024



SSN has opened B.E/B. Tech Admissions for the year 2024. However, applicants can complete the application process only after their class 12 board marks are released.

To enroll: <u>https://apply.ssn.edu.in/ssn-college-of-engineering-form</u>

Competition Update

No Competition, No Progress

Case Study Competition:

Link: Register here



Article Writing:

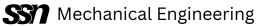
Link: Register here



Market Mania:

Link: Register here





Corporate Wisdom

From the desk of Ramki – Aspire to Inspire

From Ramki Happy Morning – Aspire to Inspire

You know that feeling, sitting in the meeting room, stunned by the attitude, demeanour and message from a leader who, just days earlier held an entirely different position and message. One day the leader is empathetic and reserved in their push for continuous improvements. The next day, that same leader would make Gordon Ramsay envious as he barks orders, demeans the team, and threatens careers. Confronted about his varying styles and tactics, the leader proclaims, "I believe in Situational Leadership! Please. The poor excuse for



inconsistency and unpredictability. Too often, stating situational leadership as a philosophy becomes an excuse for simply being inconsistent and unpredictable. And inconsistent leadership can be the death of a team.

Here are three tips to better serve your team

Communicate Change clearly

When changes are necessary, whether in a business priority or attitude, wrap those changes in clear communications. Remember, your team is not privy to all the same information you are. Therefore, the reason for any shifts in attitude or priority may not be as obvious to them as to you. When in doubt, assume your team will not understand the reason for your new focus and proactively communicate the supporting details. This can even be done after the initial change is communicated

provided it happens quickly

Avoid Surprises

As you know, managers do not like surprises. Guess what? Your team does not enjoy them either. Therefore, do not wait until everything is critical to raise the matter with your team. Get ahead of the shifting priorities by providing a "heads up" to your team that a change may be on the way. These warnings do not have to be long and comprehensive. Instead, a quick note may do the trick

Corporate Wisdom

Control Emotion

Passion is good, and frustration is bad. Be certain you do not confuse your frustration for

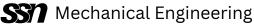
passion and consider a demeaning attitude acceptable. Instead, if you feel frustration, anger, or another negative emotion building, take the time to calm down before communicating with the team. You can be passionate, just do not be disrespectful. To help ensure you maintain the passionate focus without offending the team, keep the focus on the future and opportunity, not the past and resentment

"Situational Leadership" is a philosophy that any given situation may require a different type of leadership. While I am a firm believer that in any given situation, a different approach, practice, action, or message may be needed, the leadership principles should be consistent across the organization and time. For example, what you, as a leader, value and prioritize should be consistent. You cannot say one day that you respect the personal time and values of your employees and then call them every night for non-critical items. You cannot explain that the department's top priority is quality improvement one day and spend the next week focused on delivering a higher quantity at any quality cost. Instead, leaders should provide consistent leadership priorities, character, and messaging.

Leadership is a cruel game. You must complete the puzzle, but all the pieces are not with you. So, your success no more depends solely on you, and yet, anyone's failure is your failure. Simply put, in academics, answers are question-dependent, but in leadership, solutions are situation-dependent. The leader who leads by the philosophy that there is no "No Solution " situation is the leader of the future.

Situational leadership is – " Let problems come from anywhere, at any time. I will find solutions for it every time ." Instead of expecting circumstances to be customized, customizing your approach to circumstances is Situational Leadership. Situational leadership is demonstrating brilliance at the required moment.

#WishingMostAndMore



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