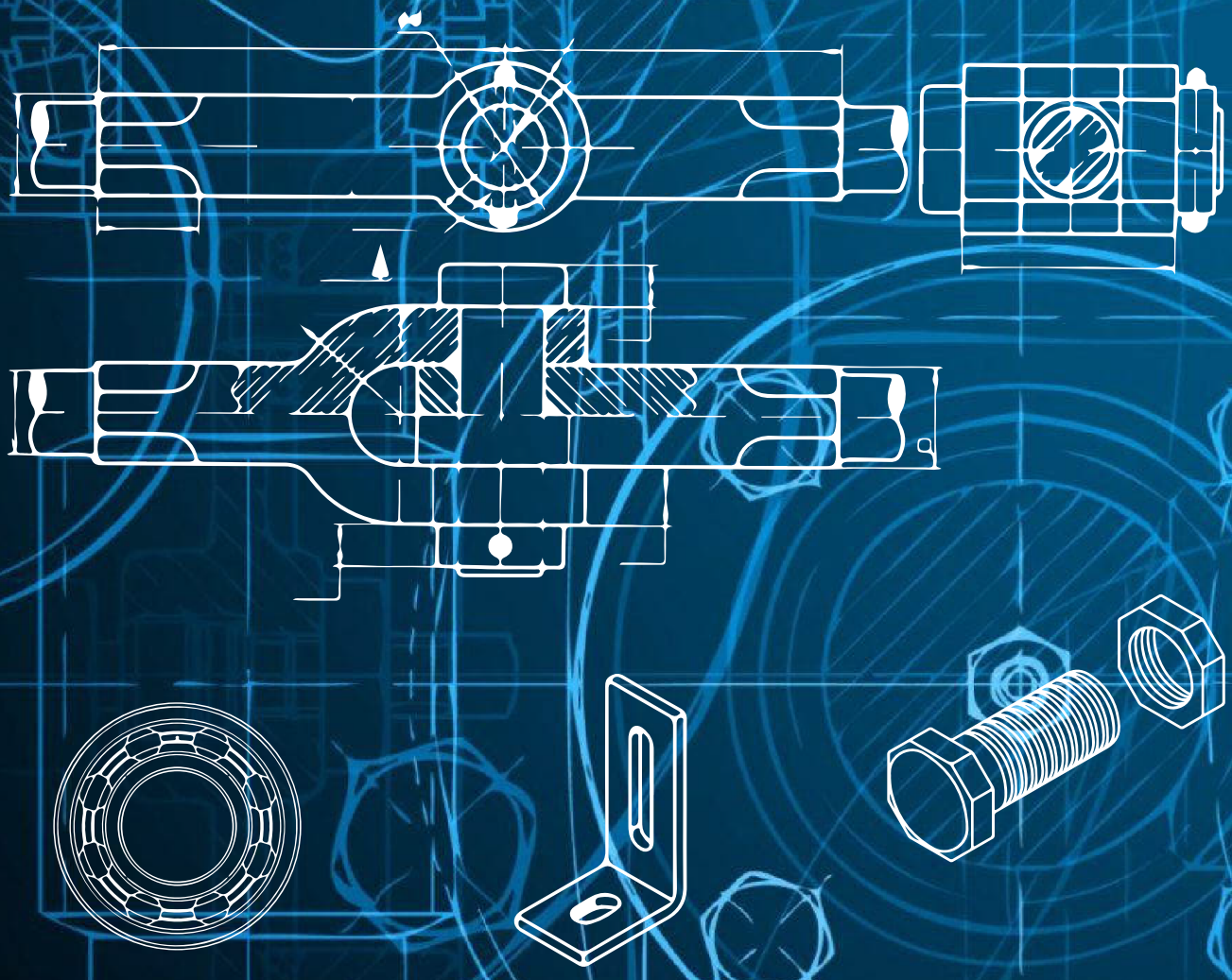
ASPIRE

ACHIEVEMENTS IN SPORTS, PROJECTS, INDUSTRY, RESEARCH AND EDUCATION

MONTHLY NEWSLETTER

DEPARTMENT OF MECHANICAL ENGINEERING

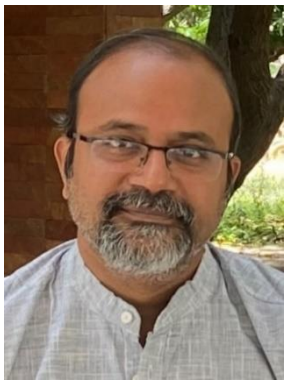
VOLUME - 13 ISSUE - 6 JUNE



SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING

RAJIV GANDHI SALAI (OMR), KALAVAKKAM, CHENNAI, TAMIL NADU, INDIA

FROM THE HOD'S DESK...



We are delighted to share the June edition of Aspire!!

We profile Maria Ressa, a journalist, who was awarded the 2021 Nobel peace prize for her effort to safeguard freedom of expression, which is a precondition for democracy and lasting peace.

SSN celebrated its annual sports day and college day, with medals and certificates being awarded to meritorious sports persons as well as those who excelled in academics. The SHAPE program was successfully organized for school students, who were given opportunities to do a project with faculty members.

Dr. T. S. Srivatsan, Professor Emeritus, University of Akron, Ohio, USA delivered an invited talk on the latest advances in Additive Manufacturing. Dr S Santosh secured an external funded project under SERB-SURE. Faculty continue to publish impactful papers in peer reviewed journals. IIT research scholar Tousif Anwer shares his experience of teaching our ME Mfg. students as part of his PMRF scholarship.

The department bid farewell to colleagues, Dr K. Rajkumar, Dr C. Arun Prakash who joined Anna University, Chennai and to Mr. Thiagarajan, non-teaching staff who has been part of SSN family for 25 years. We wish them the very best in life.

Students share their experiences with NPTEL and YRC club. Alumni shares his entrepreneurship journey and the TANSEED grant for his startup.

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

KSV | vijaysekarks@ssn.edu.in

MARIA ANGELITA RESSA

Maria Angelita Ressa is a Filipino-American journalist and the first Filipino Nobel Peace laureate. She is the co-founder and CEO of Rappler. She previously spent nearly two decades working as a lead investigative reporter in Southeast Asia for CNN.

Ressa was born in Manila and raised in Toms River, New Jersey. She was included in *Time*'s Person of the Year 2018 issue featuring a collection of journalists from around the world actively combating fake news. On February 13, 2019, she was arrested by Philippine authorities for cyberlibel due to accusations that Rappler published a false news story concerning businessman Wilfredo Keng. On June 15, 2020, a court in Manila found her guilty of cyberlibel under the controversial Anti-Cybercrime law, a move condemned by human rights groups and journalists as an attack on press freedom. As she is a prominent critic of the then Philippine President Rodrigo Duterte, her arrest and conviction was seen by many in the opposition and the international community as a politically motivated act by Duterte's government.

She is the author of three books concerning the rise of terrorism in Southeast Asia—Seeds of Terror: An Eyewitness Account of Al-Qaeda's Newest Center (2003) and From Bin Laden to Facebook: 10 Days of Abduction, 10 Years of Terrorism (2013). and How to Stand Up To a Dictator (2022).

Ressa established the online news site Rappler in 2012 along with three other female founders and with a small team of 12 journalists and developers. It initially started as a Facebook page named MovePH in August 2011, evolving into a complete website on January 1, 2012. The site became one of the first multimedia news websites in the Philippines and a major news portal in the Philippines, receiving numerous local and international awards. She serves as the Executive Editor and Chief Executive Officer of the news website.

Ressa was nominated for the 2021 Nobel Peace Prize by prime minister and leader of the Norwegian Labour Party Jonas Gahr Støre. On October 8, 2021, Ressa was officially announced as the recipient of the prize alongside Dmitry Muratov of the Russian Federation. They were awarded the prize "for their efforts to safeguard freedom of expression, which is a precondition for democracy and lasting peace". Ressa and Muratov are the first journalists since 1935 to receive the Nobel Peace Prize.

CAMPUS UPDATE

SHAPE '23

SHAPE-Summer 2023 Program was an exciting opportunity for School students who had completed their 11th grade. This program intended to raise student Awareness of the potential of the various engineering disciplines and help them make an informed Choice of further study or career. It was a 2-week program, which commenced on the 24th of April and extended till the 5th of May 2023.The aim was to give the students a thorough exposure to the Engineering branches through a hands-on Training on interesting and doable projects in 10 days. The purpose of the program was to induce Technical curiosity, and help them explore, analyse and come up with (possibly) out-of-the-box solutions to existing problems.

During the programme, the participants (interns) had an opportunity to visit all the engineering departments of the college, during which the senior faculty and the senior students will help them to Have a basic understanding of that department. Each of the interns will be given an individual Project, supported by a faculty for guidance. Other than working on a technical project, the interns were also exposed to SSN Library, Engineering Labs, Sports facilities and other facilities of the College. At the end of the program, the students will exhibit their work in a project exhibition. Best Projects were awarded. All Participants received a Certificate.

SSN ANNUAL SPORTS DAY

The annual sports day valedictory function was held on the 5th of May 2023. All the meritorious students in sports were awarded. The SSN Intercollege tournament winners were also awarded. Students who shined in their respective spots were given the deserved recognition through this event. The chief guests for the event were Mr. Rohit, the captain of the Tamil Nadu Ranji team, the honourable president Mrs. Kala Vijayakumar and the principal Dr. V E Annamalai. The event started in the morning with the athletics and track field competitions, then it moved on to the annual group picture session and ended with the valedictory ceremony. Throughout the event students were present to

encourage and support the other students who achieved big in their respective sports.

SSN COLLEGE DAY

College day was celebrated on the 25th of May. The prime objective of the event was to recognize and appreciate the meritorious students across all areas of concerns. The meritorious students of all departments were awarded the student volunteers as well of NSS, YRC were also awarded based on their organizational skills which made possible to run the events. The best outgoing student awards were also given away for each department. The honorable principal Dr. V E Annamalai presided over the event. The faculties and staff were all present to support and encourage the students.

ACHIEVEMENT OF SSN IN KHELO INDIA

B Benedicton Rohit, a second-year student from the Department of Civil Engineering, has secured three gold and five silver medals in the Khelo India University Games swimming competitions held at Noida from 26th May to 29th May organized by the Government of India.

DEPARTMENT UPDATE

Placement Update

Total placement count: 78

Abishek G got placed in GEA BGR Energy Group.

GEA BGR Energy System India Limited manufactures service industry machinery. The Company offers online tube cleaning system, debris separator, strainer, and sponge cleaning balls. GEA BGR Energy System India serves customers worldwide.

SARATH SURIYAPRAKASAM got placed in Everstage.

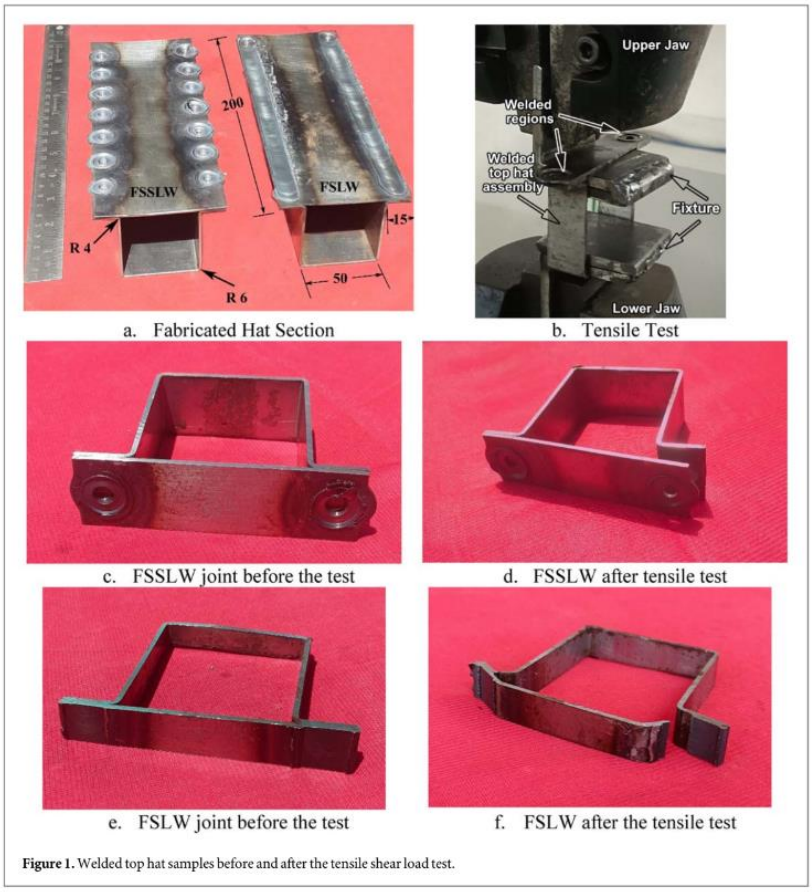
Everstage is a modern, no-code platform to automate commissions and motivate sales teams with real-time visibility and insights on their commissions.

Gokul Prasath Venkatesh got placed in Daikin.

Daikin is the world's industry leader in air conditioning with sales over 15 billion dollars, comprised of over 200 companies around the globe. Its cutting-edge air-conditioning products and services using environment friendly technologies are widely distributed and marketed in more than 150 countries, from residential A/C to commercial A/C market.

International Journal Publication - SCI /Clarivate Indexed

Abhilash, V., and A. K. Lakshminarayanan. "Friction stir lap joining techniques effects on microstructure and tensile properties of high-strength automotive steel top hat sections." *Materials Research Express* 10.2 (2023): 026505.Clarivate Impact Factor: 2.025



a. Fabricated Hat Section
b. Tensile Test
c. FSSLW joint before the test
d. FSSLW after tensile test
e. FSLW joint before the test
f. FSLW after the tensile test

Figure 1. Welded top hat samples before and after the tensile shear load test.

International Journal Publication - SCI /Clarivate Indexed

Meenachi, P., R. Subashini, Lakshminarayanan AK, and Manoj Gupta. "Comparative study of the biocompatibility and corrosion behaviour of pure Mg, Mg Ni/Ti, and Mg 0.4 Ce/ZnO2nanocomposites for orthopaedic implant applications." *Materials Research Express* (2023). Clarivate Impact Factor: 2.025

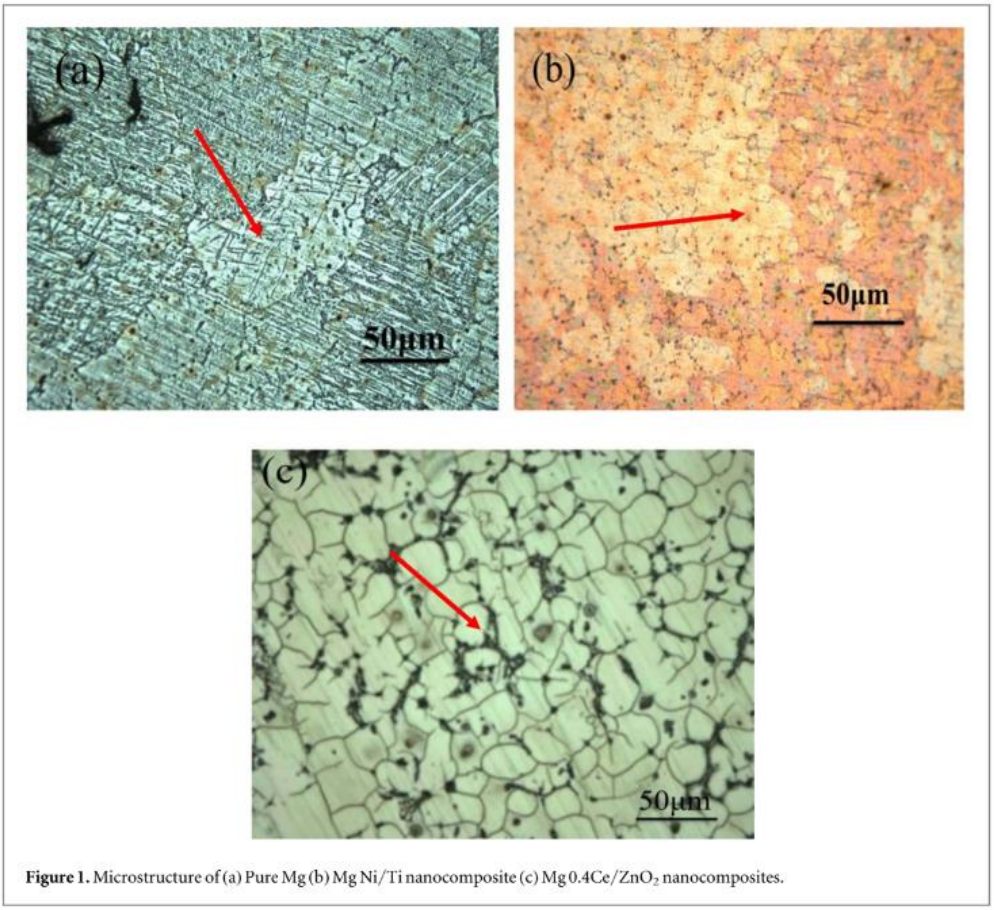


Figure 1. Microstructure of (a) Pure Mg (b) Mg Ni/Ti nanocomposite (c) Mg 0.4Ce/ZnO_2 nanocomposites.

International Journal Publication - SCI /Clarivate Indexed

Arun, A., K. Rajkumar, and Santosh Sampath. "Fibre laser cutting study on ternary NiTiV shape memory alloy." *Materials and Manufacturing Processes* (2023): 1-10.
Clarivate Impact Factor: 4.783

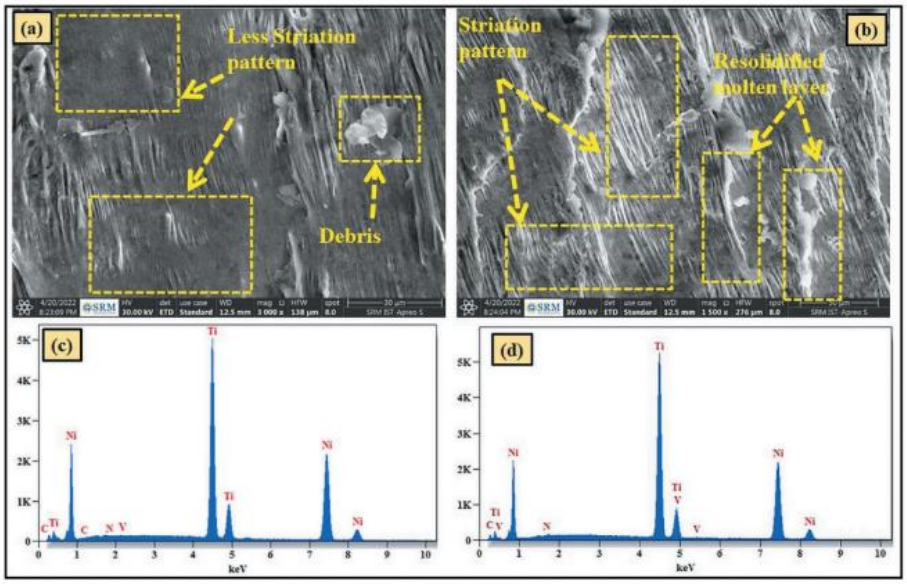


Figure 4. (a, b) the surface morphology of laser machined samples low and high parameter (c, d) EDX for laser machined $Ni_{50}Ti_{48}V_2$ SMA for low and high parameter conditions.

International Journal Publication - SCI /Clarivate Indexed

Arun, A., K. Rajkumar, and K. Vishal. "Process Parameters for Optimization in Abrasive Water Jet Machining (AWJM) of Silicon-Filled Epoxy Glass Fibre Polymer Composites." *Journal of Inorganic and Organometallic Polymers and Materials* (2023): 1-18. Clarivate Impact Factor: 3.518

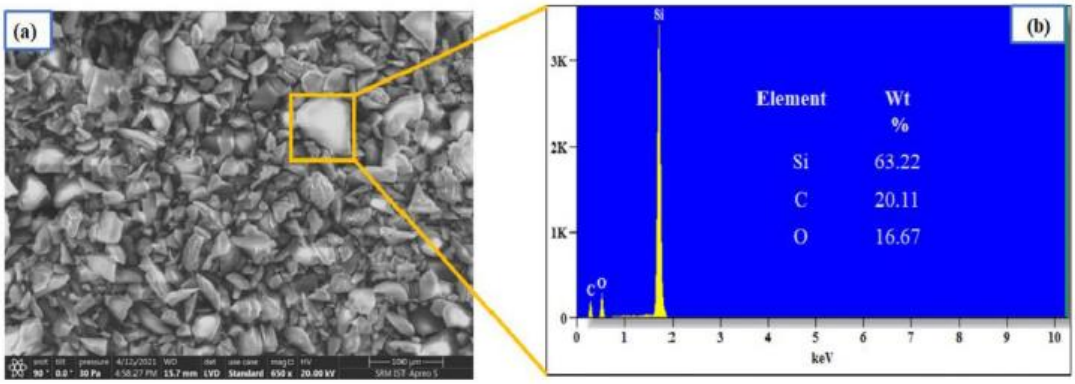
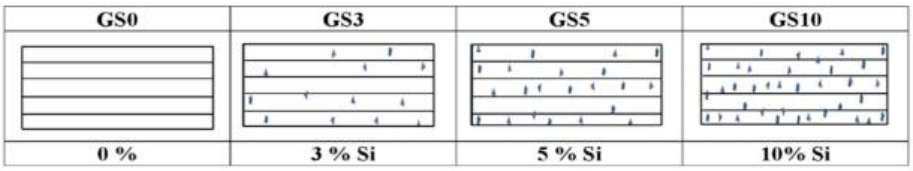


Fig. 1 Silicon filler **a** SEM morphology and **b** EDX Analysis

Fig. 2 Silicon filler content in glass polymer composite



International Journal Publication - SCI /Clarivate Indexed

Sundaraselvan, S., N. Senthilkumar, K. Rajkumar, and T. Balamurugan. "Optimization of Wear Studies on Laser Cladded AZ61 Magnesium Alloy with Nano-Titanium Dioxide Using Grey Relational Analysis." *Surface Review and Letters* 30, no. 04 (2023): 2350019. Clarivate Impact Factor: 1.5

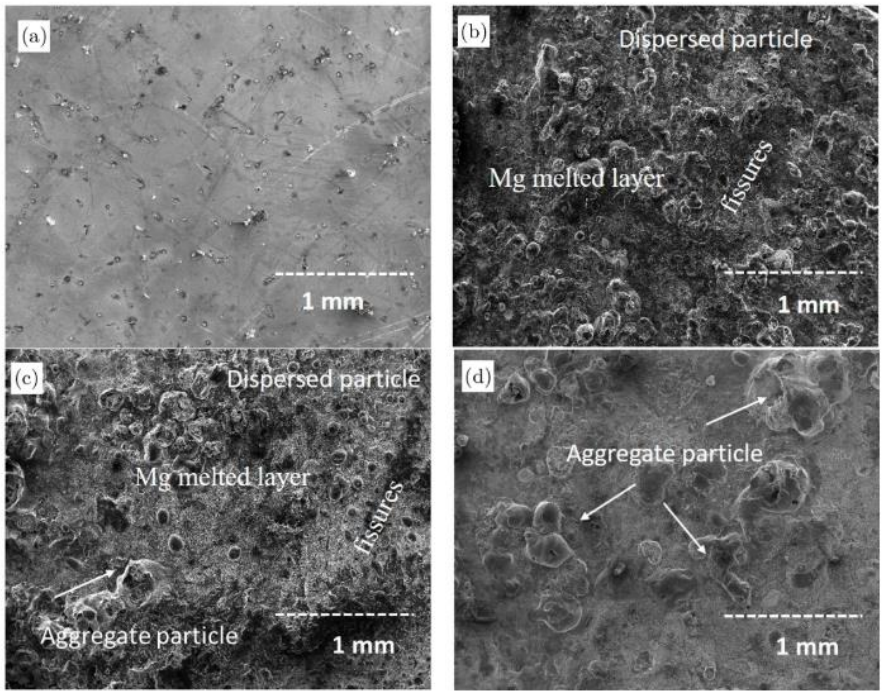


Fig. 6. Cladded microstructure. (a) Surface unmodified sample, (b) 5% sample, (c) 10% sample, and (d) 15% sample of $nTiO_2$ reinforcement of AZ61 magnesium alloy.

International Journal Publication - SCI /Clarivate Indexed

Santosh Sampath, S. Srivatsan, and R. Vignesh Pandian. "Unravelling the effect of CO2 laser machining parameters on the surface and shape memory characteristics of CuAlFeMn quaternary shape memory alloy." *Optics & Laser Technology* 163 (2023): 109306. Clarivate Impact Factor: 4.939

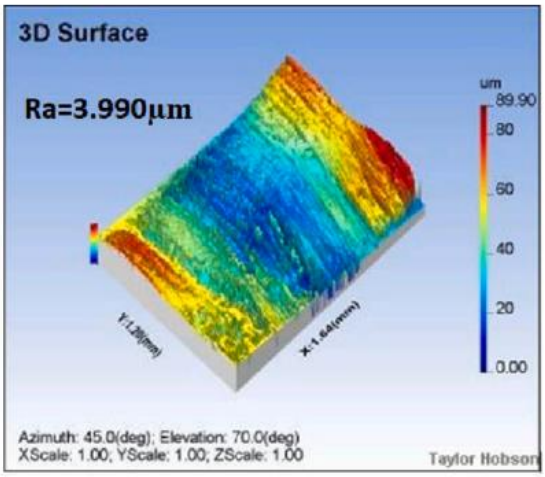


Fig. 22. Surface topography of CuAlFeMn alloy machined at lower power and lower gas pressure.

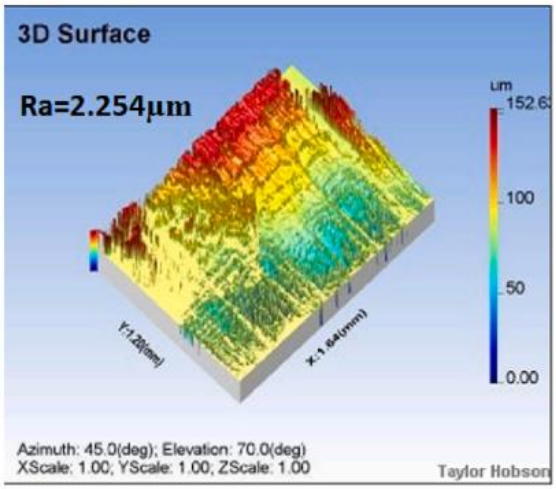


Fig. 23. Surface topography of CuAlFeMn alloy machined at higher power and higher gas pressure.

International Journal Publication - SCI /Clarivate Indexed

Sampath Santosh, Vignesh Pandian Ravi, and Srivatsan Sundararajan. "An Overview on Synthesis, Processing and Applications of Nickel Aluminides: From Fundamentals to Current Prospects." *Crystals* 13.3 (2023): 435... Clarivate Impact Factor: 2.67

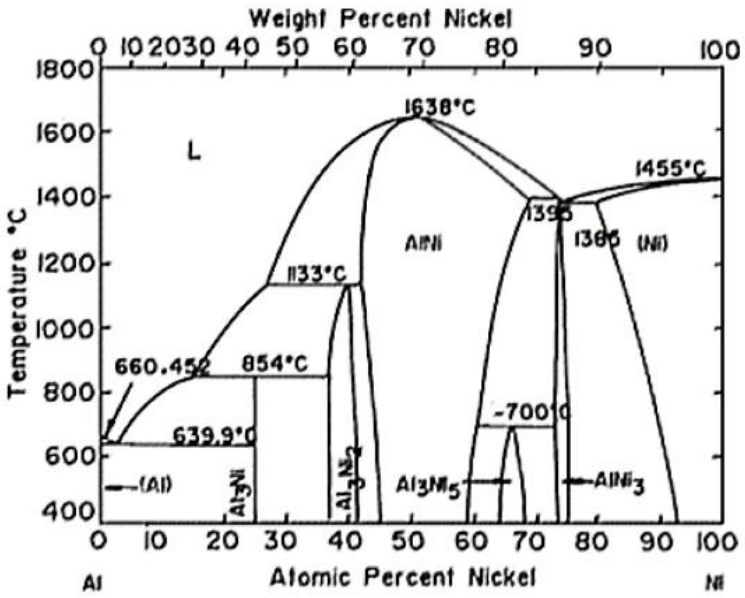


Figure 7. The Phase Relationships in the Al-Ni System: A Plot of the Al-Ni Binary Phase Diagram [7]. Reproduced with permission from Elsevier.

International Journal Publication - SCI /Clarivate Indexed

Balasubramaniyan, C., K. Rajkumar, and S. Santosh. "Fibre Laser Cutting of Cu–Zr Added Quaternary NiTi Shape Memory Alloy: Experimental Investigation and Optimization." *Arabian Journal for Science and Engineering* 48.3 (2023): 3665-3679.
Clarivate Impact Factor: 2.807

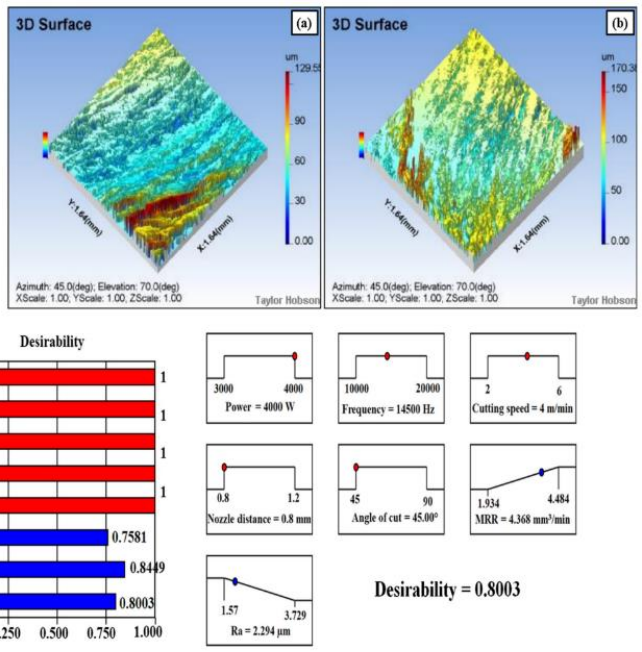


Fig. 10. 3D surface analysis of laser-cut surface at various angles of cut **a** 45°, **b** 90°

Fig. 11 Desirability analysis **a** desirability plot, **b** ramp function plot

Scopus Publication

Nithyanandh, G., S. K. Yogeshwaran, and Santosh Sampath. "Preparation, characterization and dynamic mechanical analysis of CuZnAl shape memory alloys." *Materials Today: Proceedings* 72 (2023): 2476-2479.

Harris, WB Jefrin, Achudha Vagheesan Dehaleesan, Santosh Sampath, and Anirudh Venkataraman Krishnan. "A state-of-the-art review on electric discharge machining of shape memory alloys." *Materials Today: Proceedings* 72 (2023): 2518-2527.

Ashwath, J., M. Pavithran, and Santosh Sampath. "Fabrication, processing and characterization of Cu-based smart alloys." *Materials Today: Proceedings* 72 (2023): 2497-2500.

Santosh Sampath. "Influence of copper on the deformation behaviour of NiTi shape memory alloys in isothermal compression." *Materials Today: Proceedings* 72 (2023): 2428-2431.

FACULTY WRITE-UP

TALK BY DR. T. S. SRIVATSAN

A talk on Additive manufacturing was organized by the SSN ASM Students chapter on 15th May 2023 by Dr. Santhosh and Dr. Ananthapadmanaban. The talk was given by Dr. T. S. Srivatsan, Professor Emeritus, University of Akron, Ohio. The talk focused on the latest advances in Additive Manufacturing.

Dr TSS talked about Powder bed fusion, Laser power injection and Free form fabrication. He stressed the complex thermal processing and the resulting complex microstructures that are obtained when additive manufacturing techniques are used. Ti-6Al-4V alloy seems to be the alloy where there is ample potential to work on.

Dr TSS mentioned the attempts made by ASTM for standardization, especially ASTM-f42 and F2924. Additionally, ASTM 2792 and 2915 were deemed to be important. Mainly Aluminum alloys, Steels-304 and 316, Inconel 625 and a few rare earths have been researched and there seems to be ample scope for research in all other metal alloy systems.

Dr TSS talked about OPTOMEC; Netherlands that proposed AM being integrated in already existing machines like CNC machines. This will cut down cost. The Lens hybrid system operating in the USA gives 3 modes- Additive, Subtractive and Additive and Subtractive. Such exposures to Internationally renowned experts give all of us new ideas to work on and the possibility of research collaborations.

THE FIRST SPARK: UNVEILING THE FULFILLING JOURNEY OF TEACHING AT SSN COLLEGE OF ENGINEERING

Tousif Anwer, Prime Minister's Research Fellow,

I am immensely grateful to my Guide, Prof. Murugaiyan Amirthalingam, at IIT Madras for introducing me to SSN College of Engineering and for his support in allowing me to pursue the teaching opportunity at this esteemed institution. I would also like to express my gratitude to Prof. K.S. Vijay Sekar, the Head of the Mechanical Engineering Department at SSN College, and Prof. S.R. Koteshwara Rao for providing me with the opportunity to teach. As a PMRF (Prime Minister's Research Fellowship) Scholar at IIT Madras, this teaching experience has been a valuable part of my academic journey.

Under the guidance of Prof. S.R. Koteshwara Rao, I had the privilege of teaching the enlightening course PMF2105: Micro and Crystal Structure Analysis, investing 10 hours, and PMF2202: Unit IV Additive Manufacturing Processes II, investing 20 hours including the laboratory demonstration.

Additionally, Dr. A.K. Lakshminarayanan' s course, PMF2103: Welding Metallurgy and Design, provided me the opportunity to contribute 10 hours of valuable instruction. I extend my deepest gratitude to the faculty members for their guidance, support, and belief in my teaching abilities. Their mentorship has played a pivotal role in shaping my teaching approach and nurturing a conducive learning environment.

As I conclude my teaching journey at SSN College, I am filled with gratitude for the enriching experiences and meaningful connections I have made with students and colleagues. The memories and lessons from this transformative experience will forever hold a special place in my heart.

Looking ahead, I am excited about the prospect of returning to SSN College in the future to continue sharing my knowledge and passion for teaching. The vibrant academic community and the dedication of the faculty and students have inspired

me to further contribute to the growth and success of this institution. I eagerly anticipate the opportunity to engage with students, collaborate with colleagues, and create a nurturing learning environment that fosters intellectual curiosity and academic excellence.

I am deeply grateful to the faculty members of SSN College of Engineering for this enriching teaching experience. It has been an honour and a privilege to be a part of the educational journey at SSN College, and I am confident that the knowledge and skills acquired during my time here will continue to shape my future endeavours in academia.

FAREWELL TO MR. THIAGARAJAN, DR. ARUN PRAKASH AND DR. K. RAJKUMAR

A lot of us have seen a friendly face around the department for a long time and that is of Mr. Thiagarajan. Mr. Thiagarajan has been with SSN for close to 25 years and with the Mechanical Engineering Department for the last 15 years. He has been very helpful to all of us and has never failed to amaze us with his fitness. We can't believe that the time has flown by so fast that we must now say goodbye to Mr. Thiagarajan this month. We are ever so grateful for everything he has done for us over the last 15 years, and we will miss having him around. We wish him the very best and pray for happiness and relaxation in life. We hope he enjoy your freedom and continue to stay in touch!

Dr. Arun Prakash and Dr. K. Rajkumar have been chosen to be a part of Anna University during their recruitment process. Dr. Arun Prakash will be part of the Mechatronics team at Madras Institute of Technology while Dr. K. Rajkumar will be part of the manufacturing team at CEG Campus. We have had some good memories with them as well and have a lot to learn from them. We wish them the very best and hope they continue to stay in touch with us as well. We would continue to collaborate with both and hope to see them in SSN as judges for various competitions and project reviews.

ONLINE TRAINING PROGRAM ON ROBOTICS TECHNOLOGY FOR HCL EXECUTIVES

The training programme was requested by HCL for their executives and was attended by 20 HCL executives online on Fridays. The content for each week was uploaded on LMS on the previous Friday to enable them to go through and attend the discussion session which worked on the flipped classroom model. Spearheaded by Prof. Shashikant Albal, the programme was coordinated over LMS (content & assessment) and MS teams (discussion sessions). The list of SMEs who designed and handled the sessions are provided below Based on the requirements the course was designed into 10 modules, the list of which is also presented below along with the pedagogy adopted. The programme was successfully completed on 12.05.2023 for the first batch.

Domain/Modules	Subject matter expert	Course Design & Pedagogy
Technology Trends in Robotic Development	**Dr. Saravanan, EEE** **Dr. Vimal Samsingh, Mech** **Dr. Arun Prakash, Mech** **Dr. Sakthivel Murugan, ECE** **Dr. Arun Ramaveerapathiran, EEE** **Dr. Satheesh Kumar Gopal, Mech**	**For each module:** Two videos + Reading 2.5 hours Doubts & Discussions 1 hour Assessment & Discussions 30 minutes
Application requirement (Medical &/or Manufacturing &/or Test Automation)		
Motor Choices & selection		
Controls Choices & Selection		
Sensor Choices & Selection		
High level understanding of Modelling, control loop		
Influence of Robotics on Adjacent domains		
Mini project: Identification of components for a given application		3 hours
Proposal: Requirements conversion		3 hours
Evaluation of proposal submitted by each team		3 hours
	Total	**37 hours**

WORKSHOPS ORGANIZED

23/05/2023 13:45:13	Dr. Santosh Sampath, Dr. S Suresh Kumar and Dr. M Dhananchezian have successfully conducted the one-day national workshop on Smart materials and Structures on 16th May 2023.

NON-TEACHING STAFF ACTIVITIES

20/05/2023 08:33:42	Mr. M. Giridharan /Lab Assistant/Mech Attended a "Hands-on Training on "Measurement Possibilities using Microwave Analyzer" by ECE department on 29th April 2023.
20/05/2023 10:18:13	Mr. J. Ponmuthuraja / Machinist Grade I (Sr. grade) / Mechanical / performed Admission duty on SNUCEE 23rd

	April 2023 (Sunday) and 6th May 2023 (Saturday) from 8 am to 3 pm at SSN CSE Annex OS & Network Programming Lab.
20/05/2023 14:42:47	Mr. Nagarajan S/Lab Instructor/ Department of Mechanical Engineering attended the Hands-on Training on "Measurement Possibilities using Microwave Analyzer" organized by the Department of Electronics and Communication Engineering, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam on 29th April 2023.
20/05/2023 14:47:16	Mr. Nagarajan S/Lab Instructor/ Department of Mechanical Engineering attended the Hands-on Training on "RF device characterization using VNA" organized by the Department of Electronics and Communication Engineering, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam on 13th May 2023.
20/05/2023 14:57:39	Mr. R. Subramani / Lab Assistant. Department of Mechanical Engineering attended the Hands-on Training on "Measurement Possibilities using Microwave Analyzer" organized by the Department of Electronics and Communication Engineering, Sri Sivasubramaniya Nadar College of Engineering, Kalavakkam on 29th April 2023.
26/05/2023 11:33:34	Mr. Balasundaram palanisamy / lab assistant / Mechanical / attended one day webinar / Hands-on Training on "Measurement Possibilities using Microwave Analyzer" on 29th April 2023 at "Microwave and Optic Fiber Lab" situated in the Department of ECE, held from 9.00 am to 11 am and Coordinated by Dr. B. Ramani, Associate Professor/ ECE department SSNCE.

SCHOLAR INFO

13/05/2023 15:12:23	Dr. S. Rajkumar, ASP/Mech conducted the PhD public viva voce examination for his part-time research scholar, Mr. V Ashok on 10.05.2023.

PROJECTS SANCTIONED

23/05/2023 15:31:19	Dr. Santhosh Sampath: Development of ultra-low temperature shape memory alloys for critical cryogenic applications. (SERB – SURE Grant) Approx. 25 Lakhs.

PROJECTS APPLIED

02/05/2023 09:29:40	Dr. Ananthapadmanaban: Processing and Characterization of High Entropy Alloys similar to Ancient Panchalocha.

INTERNATIONAL JOURNAL PUBLISHED

20/05/2023 08:59:55	Dr. V Abhilash and Dr. A K Lakshminarayanan published a paper on "Friction stir lap joining techniques effects on microstructure and tensile properties of high-strength automotive steel top hat sections" in the journal **Materials Research Express.**
20/05/2023 09:04:34	Dr. Meenachi, Dr. Subashini R, Dr. A K Lakshminarayanan and Dr. Manoj Gupta published a paper on "Comparative study of the biocompatibility and corrosion behavior of pure Mg, Mg Ni/Ti, and Mg 0.4Ce/ZnO2 nanocomposites for orthopedic implant applications" in the journal **Materials Research Express.**
22/05/2023 12:28:36	Dr. K Rajkumar, Dr. Santosh Sampath and A Arun published a paper on "Fiber laser cutting study on ternary NiTiV shape memory alloy" in the journal **Materials and Manufacturing Processes.**
22/05/2023 12:31:12	Dr. K Rajkumar, Dr. K Vishal and A Arun published a paper on "Process parameters for optimization in abrasive water jet machining (AWJM) of silicon-filled epoxy glass fiber polymer composites" in the **Journal of Inorganic and Organometallic Polymers and Materials.**

22/05/2023 12:50:46	Dr. S Sundaraselvan, Dr. N. Senthilkumar, Dr. K. Rajkumar, Dr. T. Balamurugan published a paper on "Optimization of wear studies on laser cladded AZ61 magnesium alloy with nano-titanium dioxide using grey relational analysis" in the journal **Surface Review and Letters.**
23/05/2023 12:47:51	Dr. Santosh Sampath, S Srivatsan, R Vignesh Pandian published a paper on "Unravelling the effect of CO2 laser machining parameters on the surface and shape memory characteristics of CuAlFeMn quaternary shape memory alloy" in the journal **Optics and Laser Technology.**
23/05/2023 12:52:11	Dr. Santosh Sampath, Vignesh Pandian Ravi and Srivatsan Sundararajan published a paper on "An Overview on Synthesis, Processing and Applications of Nickel Aluminides: From Fundamentals to Current Prospects" in the journal **Crystals.**
23/05/2023 12:58:19	Dr. C Balasubramaniyan, Dr. K Rajkumar and Dr. Santosh Sampath published a paper on "Fiber Laser Cutting of Cu–Zr Added Quaternary NiTi Shape Memory Alloy: Experimental Investigation and Optimization" in the journal **Arabian Journal for Science and Engineering.**
23/05/2023 13:56:05	Dr. Santhosh Sampath, Nithyanandh G and Yogeshwaran S K published a paper on "Preparation, characterization and dynamic mechanical analysis of CuZnAl shape memory alloys" in the journal **Materials Today: Proceedings.**
23/05/2023 14:01:40	Dr. Santosh Sampath, Dr. Anirudh Venkataraman Krishnan, W B Jefrin Harris, Achudha Vagheesan Dehaleesan, published a paper on "A state-of-the-art review on electric discharge machining of shape memory alloys" in the journal **Materials Today: Proceedings.**
23/05/2023 14:35:20	Dr. Santhosh Sampath, Pavithran M and Ashwath J published a paper on "Fabrication, processing and characterization of Cu-based smart alloys" in the journal **Materials Today: Proceedings.**

23/05/2023 14:46:27	Dr. Santhosh Sampath published a paper on "Influence of copper on the deformation behavior of NiTi shape memory alloys in isothermal compression" in the journal **Materials Today: Proceedings.**

EXTERNAL RECOGNITION

17/05/2023 13:56:40	Dr D. Ananthapadmanaban has been invited as a Technical Committee member in ICMSET 23 International Conference to be held in Fukuoka, Japan during 24th to 26th November,2023.
17/05/2023 14:40:42	Dr. A. S. Ramana, ASP/Mech. delivered a lecture on "Solar Thermal Applications" in Online FDP on Renewable Energy Sources Organized by GCT, Coimbatore & Mohd. Sathak Polytechnic, Kilakarai on 17th May 2023.
20/05/2023 09:26:32	Dr A K Lakshminarayanan, Examined the Ph.D. thesis and conducted the oral examination of the Ph.D. scholar Mr. Saravana Kumar, who worked under the supervision of Dr. T. Rajasekaran, Professor, SRM Institute of Higher Education and Technology, Katankulathur, Chennai on 19th May 2023.
20/05/2023 09:27:16	Dr. A K Lakshminarayanan acted as an External Examiner for the Major Project Viva Voce of UG students of Mechanical Engineering, SRMIST, Katankulathur during 15-16th May 2023.
25/05/2023 15:36:01	Dr. Satheesh Kumar Gopal was invited as an external examiner to conduct M. Tech CAD & Robotics practical examinations at SRM IST Kattankulathur campus on 19th May 2023.
25/05/2023 16:54:19	Dr. K. Jayakumar ASP/Mech. Invited as an External examiner (Subject Expert) to the replacement of Prof. J. Paulo Davim (Famous researcher in the area of machining of composites with Citations of 31912) for a PhD scholar at the Department of Mechanical Engineering, SRM University, Kattankulathur, Chennai on 23rd May 2023.

BOOK CHAPTERS PUBLISHED

23/05/2023 13:22:19	Dr. Santhosh Sampath, in collaboration with Dr. S A Srinivasan, published a book chapter titled "Flexible Ceramics: An Introduction".
23/05/2023 13:26:21	Dr. Santosh Sampath, in collaboration with Dr. Srinivasan Alagappan, Dr. G. Sudha Priyanga, Dr. Ram K. Gupta, Dr. Ajit Behera and Dr. Tuan Anh Nguyen, published a book chapter titled "Shape Memory Ceramics".

OTHER

20/05/2023 09:21:55	Dr. A K Lakshminarayanan attended the Ph.D. oral examination of Ragavendran M, Homi Bhabha National Institute, supervised by Dr. M Vasudevan, Associate Director, MTD, IGCAR as a member of the viva voce board on 11th April 2023
20/05/2023 09:22:37	Dr. A K Lakshminarayanan attended the Ph.D. oral examination of Ragavendran M, Homi Bhabha National Institute, supervised by Dr. M Vasudevan, Associate Director, MTD, IGCAR as a member of the viva voce board on 4th May 2023
20/05/2023 09:23:25	Dr. A K Lakshminarayanan conducted the Ph.D. public viva voce examination of Mr. Sadasivan N, as a research coordinator and convener of the viva voce board on 5th May 2023 at RMK College of Engineering and Technology, Chennai.
25/05/2023 17:01:43	Dr. K. Jayakumar ASP/Mech, was invited as an External Examiner at Hindustan Institute of Technology and Science (Hindustan University), Padur, Chennai for UG project final year project viva voce examination on 17th to 18th May 2023.

STUDENT WRITE-UP

S.NO	DATE	ACTIVITY DONE DURING THE MONTH
		SECOND YEAR
1)	26/01/2023-29/04/2023	Aniruth Sridhar S Completed nptel course on "Production and operation management."
		FOURTH YEAR
2)	19/05/2023-22/052023	RUFUS DERICK Participated in YRC CAMP

ANIRUTH SRIDHAR FROM SECOND YEAR MECH WRITES....

This is Aniruth Sridhar S, Sophomore year student from the Mechanical Engineering department sharing my experience of NPTEL Online Course Completion. I did Production and Operation Management course for 12-week. This management course holds 3 credits in our curriculum. The course was taught by Dr. Rajat Agarwal from IIT Roorkee. The course covered the basic industrial management concepts such as six sigma, forecasting, Inventory planning, etc., The course was well structured in all aspects for the ease of understanding all the topics. I hope this course will help the students to get to know more about the management concepts in a much-detailed manner.

RUFUS FROM FINAL YEAR MECH WRITES....

YRC (Youth Red Cross) is a program initiated by SSN College to inculcate the thought of offering the needy, helping of out people in orphanages and organizing blood camps for medical. They organized a village camp from May 19th to May 22nd in Aamor. In that program, we did 2 activities.

1. Free medical camp

2. Wall painting for a school

In that village, students were divided into 2 groups where 1 group helped the elderly people to get a free medical checkup and organized that place to be more comfortable according to the doctors. The other group, involved in painting the school with amazing colours to bring it back to life. Students were actively participating in both the groups and helped getting the job done. Such activities help in bringing teamwork and coordination among peers.

MECH MARVEL

Amazing Innovation 233

SONIC FIRE EXTINGUISHER BY GEORGE MASON UNIVERSITY STUDENTS

A thumping bass may do more than light up a party—it could flat out extinguish it, thanks to a new sound-blasting fire extinguisher by George Mason University undergrads. The fire extinguisher uses low-frequency sound waves to douse a blaze. Engineering seniors Viet Tran and Seth Robertson now hold a preliminary patent application for their potentially revolutionizing device.

The idea to fight fire with sound waves came when they were choosing a class project for ECE 492 and 493, Advanced Senior Design, where students produce and present a project for a final grade. Tran and Robertson's 20-pound, Flash Gordon-style prototype was born through $600 of their own money and about as many trials. Their sound-wave device is free of toxic chemicals and eliminates collateral damage from sprinkler systems. If mounted on drones, it could improve safety for firefighters confronting large forest fires, urban blazes or space.
"Fire is a huge issue in space," Tran says.
"In space, extinguisher contents spread all over. But you can direct sound waves without gravity," adds Robertson.

Initially, both students thought big speakers and high frequencies would douse a fire.
"But it's low-frequency sounds—like the thump-thump bass in hip-hop that works," says Tran, who joked that rappers like 50 Cent could probably douse a fire, and that hip-hop celebrity endorsements might be just the ticket to hawk their fire extinguisher.

Amazing Innovation 234

18 year old EESHA KHARE invents revolutionary device that can charge a phone in 20 SECONDS.

An average cell phone can take at least 6 to 7 hours to fully get charged. But now, a breakthrough by an 18-year-old science student might enable mobile phones and other batteries to be charged within seconds.

Saratoga-resident Eesha Khare made the breakthrough by creating a small super capacitor that can fit inside a cell phone battery and enable ultra-fast electricity transfer and storage, delivering a full charge in 20-30 seconds instead of several hours.

The fast-charging device is a so-called super capacitor, a gizmo that can pack a lot of energy into a tiny space, charges quickly and holds its charge for a long time.

The best part of my project was seeing its practical application. After charging my super capacitor for 20 seconds, I was able to light a LED device and that's an amazing accomplishment," said Khare at an engineering fair.

It can last for 10,000 charge-recharge cycles, compared to only 1,000 cycles for conventional rechargeable batteries.

Her interest in nano-chemistry eventually led to this brilliant discovery.

Khare's invention won her the Intel Foundation Young Scientist Award with $50,000 prize money at the Intel International Science and Engineering Fair, conducted this week in Phoenix, Ariz.

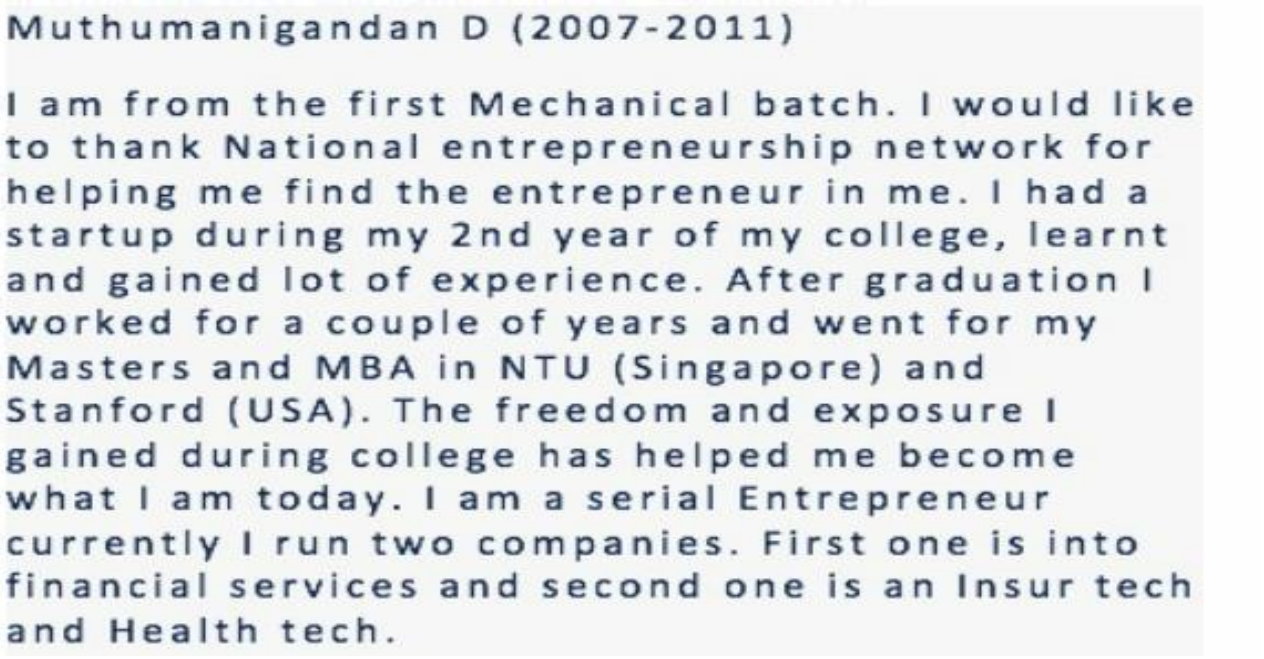
"With this money I will be able to pay for my college and also work on making scientific advancements," says Khare after receiving the prize money.

Eesha’s invention also has potential applications for car batteries.

The nano-tech device Khare created can supposedly withstand up to 100,000 charges, a 100-fold increase over current technology, and it’s flexible enough to be used in clothing or displays on any non-flat surface.

ALUMINI WRITE-UP

MUTHUMANIGANDAN D OF BATCH 2007-2011 SHARES...


Muthumanigandan D (2007-2011)

I am from the first Mechanical batch. I would like to thank National entrepreneurship network for helping me find the entrepreneur in me. I had a startup during my 2nd year of my college, learnt and gained lot of experience. After graduation I worked for a couple of years and went for my Masters and MBA in NTU (Singapore) and Stanford (USA). The freedom and exposure I gained during college has helped me become what I am today. I am a serial Entrepreneur currently I run two companies. First one is into financial services and second one is an Insur tech and Health tech.

ORZU.LIFE is the only Insure tech and Health tech player in the market. We are building analytics driven aggregator web platform and an app for listing all the Hospitals with their facilities and features, tariff for the cost of operation/ procedure. Help people understand the coverage in their Health policy and know how much claim will be settled as per their Insurance policy, how much they must pay and arrange loan for the same. We offer a 360-degree support in the health tech and Insure tech field.

ACHIVEMENTS:

- Incubated by NASSCOM Center of Excellence (Bangalore)
- Incubated by Healthcare technology Innovation center (HTIC) in IIT (Madras)
- Runner-up in Indian Startup Festival
- Have 10000+ Corporate employees and family covered under Group medical and accidental policy.

Orzu.Life was selected out of 3000+ Startup from Tamil Nadu under the TANSEED grant. In November 50 startups from the 3000+ was Invited to PSG Tech in Coimbatore and Similarly few other Incubation centers did the same. Finally, each Incubation center must share 25 shortlisted startups and from the whole pool the final 25 startups were selected. It was a three-month process and we had to attend various sessions. Finally, I received a grant of INR 10 Lakhs from our Honorable Chief Minister Stalin. I have applied for multiple other grants and am at various stages in the selection process.

I have also been shortlisted by https://www.health2conf.com/, which is an international organization. From around the globe, they select 400 Startups/ Leaders and award 100 Startups/ Leaders, and I am happy to inform you that I am I among them.

COMPETITION UPDATE

"NO COMPETITION, NO PROGRESS"

Debate:

Link: Register_Here

Quiz:

Link: Register_Here

Case Study:

Link: Register_Here

CORPORATE WISDOM

FROM THE DESK OF RAMKI – ASPIRE TO INSPIRE

From Ramki
Happy Morning – Aspire to Inspire

Normally the temples now-a days are constructed with Marble tiles and statues. A temple was laid with beautiful marble tiles with a huge marble statue of the god displayed in the middle of the Sanctum.

Many people came from all over the world just to admire this beautiful temple and the god statue for prayers.

One night, the marble tiles started talking to the Marble Statue

Marble tile: Marble statue, it's just not fair, it's just not fair! Why does everybody from all over the world come all the way here just to step on me while admiring you and worshiping you? Not fair!

Both of us came from Makarana in the same truck. Everybody is standing on me and praying to you.

- Marble Statue: My dear friend, marble tile, I agree with you that both of us came on the truck. We were from the same cave too!
- Marble tile: Yeah! That's why I feel it is even more unfair. We were born from the same cave and yet we receive different treatment now. Not fair!
- Marble Statue: Then, do you still remember the day when the sculpture tried to work on you, but you resisted his tool?
- Marble tile: Yes, of course I remember. I hate that guy! How could he use his tool on me, it hurt so badly.
- Marble Statue: That's right! He couldn't work on you at all as you resisted being worked on.
- Marble tile: So???
- Marble Statue: When he decided to give up on you and start working on me instead, I knew at once that I would be something different after his efforts. I did not resist his tool, instead I bore all the painful tools he used

on me. I took millions of blow on to myself, so I became a statue worthy of being worshipped.

- Marble tile: Mmmmmmmmm……
- Marble Statue: My friend, there is a price to everything in life. Since you decided to give up halfway, you can't blame anybody who steps on you now.
- Unless we willingly allowed our past to chisel us what we can be, we don't become what we can be. So somewhere rather than looking at the unfavourable experiences, the testing time or the challenging times of the past as tough times. I don't think any one of us should look at our past with any regret for what has not happened, for our failures, for our defeats. It is important that we have the right perspective towards it. Be grateful to your past because that lead you to where you are today and the pedestal from which you can build your future.

KEEP YOURSELF FOCUSED ON YOUR HIGHEST VALUES, YOUR GOALS, AND YOUR ASPIRATIONS IN LIFE.

#WishingMostAndMore

Have a wonderful day & great week!

Ramki

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