



Mechanical Engineering

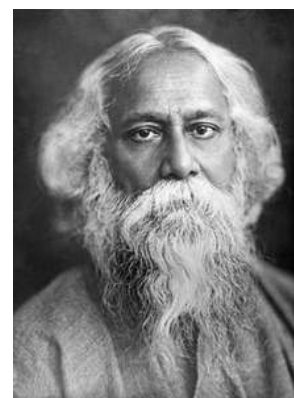
Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 63

Rabindranath Tagore

Rabindranath Tagore (1861-1941) was the youngest son of Debendranath Tagore, a leader of the Brahmo Samaj, which was a new religious sect in nineteenth-century Bengal and which attempted a revival of the ultimate monistic basis of Hinduism as laid down in the Upanishads. He was educated at home; and although at seventeen he was sent to England for formal schooling, he did not finish his studies there.



In his mature years, in addition to his many-sided literary activities, he managed the family estates, a project which brought him into close touch with common humanity and increased his interest in social reforms. He also started an experimental school at Shantiniketan where he tried his Upanishadic ideals of education. From time to time he participated in the Indian nationalist movement, though in his own non-sentimental and visionary way; and Gandhi, the political father of modern India, was his devoted friend. Tagore was knighted by the ruling British Government in 1915, but within a few years he resigned the honour as a protest against British policies in India.

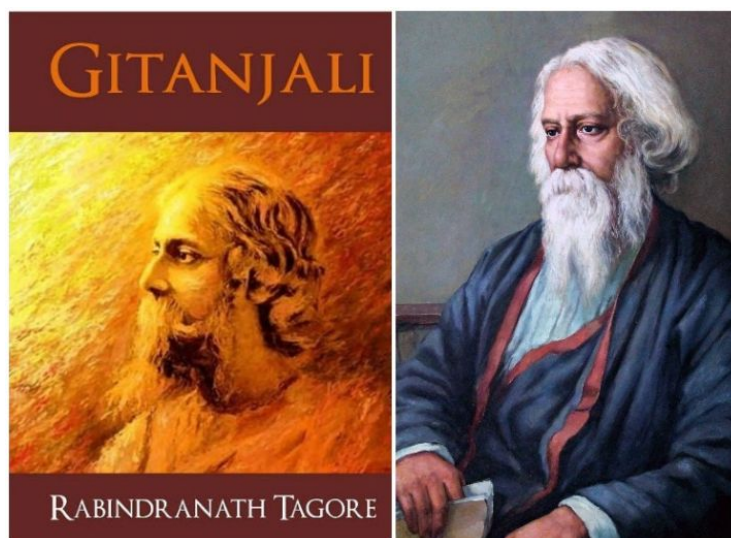
Tagore had early success as a writer in his native Bengal. With his translations of some of his poems he became rapidly known in the West. In fact, his fame attained a luminous height, taking him across continents on lecture tours and tours of friendship. For the world he became the voice of India's spiritual heritage; and for India, especially for Bengal, he became a great living institution.

Gitanjali Song Offerings is a collection of 103 prose poems, selected by Tagore from among his Bengali poems and translated by him into English. The collection brought Tagore international attention and won him the Nobel Prize in Literature. Although Tagore later published more than twenty additional volumes of his poetry in English translation, Gitanjali Song Offerings remained one of his most beloved works.

All of the poems in the Gitanjali are devotional in nature, and they all have the tender tone of conventional love poems. There are also several motifs or subordinate themes that are repeated and recombined throughout the collection. In the first three poems, for example, the writer emphasizes his smallness and his helplessness before his lord. Then the emphasis shifts to what is expected of the writer: He must live a life of truth, purity, and simplicity, thus reflecting the nature of the divinity he serves. However, in several poems, including number 73, the poet maintains that union with the divine does not mean renunciation of the senses but a fuller appreciation of what they reveal, notably the beauties of the natural world.

Although Tagore wrote successfully in all literary genres, he was first of all a poet. Among his fifty and odd volumes of poetry are Manasi (1890) [The Ideal One], Sonar Tari (1894) [The Golden Boat], Gitanjali (1910) [Song Offerings], Gitimalya (1914) [Wreath of Songs], and Balaka (1916) [The Flight of Cranes]. The English renderings of his poetry, which include The Gardener (1913), Fruit-Gathering (1916), and The Fugitive (1921), do not generally correspond to particular volumes in the original Bengali; and in spite of its title, Gitanjali: Song Offerings (1912),

the most acclaimed of them, contains poems from other works besides its namesake. Tagore's major plays are Raja (1910) [The King of the Dark Chamber], Dakghar (1912) [The Post Office], Achalayatan (1912) [The Immovable], Muktaadhara (1922) [The Waterfall], and Raktakaravi (1926) [Red Oleanders]. He is the author of several volumes of short stories and a number of novels, among them Gora (1910), Ghare-Baire (1916) [The Home and the World], and Yogayog (1929) [Crosscurrents]. Besides these, he wrote musical dramas, dance dramas, essays of all types, travel diaries, and two autobiographies, one in his middle years and the other shortly before his death in 1941. Tagore also left numerous drawings and paintings, and songs for which he wrote the music himself.



Source:

<https://www.nobelprize.org/prizes/literature/1913/tagore/biographical/>

Info to Alumni- Campus Update

Principal Dr.S.Salivahanan writes...

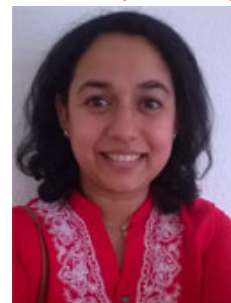
SSN Institutions celebrated its inaugural Innovation Day on 8th February, 2019 organized by the SSN Innovation Centre. The SSN Innovation Day was inaugurated at the Justice Prathap Singh Auditorium by Dr. Ashok Jhunjunwala, Institute Professor at IIT Madras, Chennai and a renowned technocrat working with various industries and higher education institutions. This was followed by Student Project Display Contest at SSN Career Development Centre at 11:00 AM. Around 30 carefully selected project teams displayed their innovative projects that they have carried out during the year. Best projects were awarded.



(More info in the student write up section)

Dr.Divya John writes..

The Department of English, SSN College of Engineering, organized the SSN Best Speaker Contest on 26 Feb 2019 in the mini auditorium. Dr. Chitraa Venkataachalam, Associate Professor, Ethiraj College, delivered a talk on public speaking.



Dr.Balaji Ponnalagar writes..



The Inauguration Ceremony of the 16th Annual Sports Fest, SSN TROPHY 2k19 (All India Intercollegiate Tournament) was conducted on 22nd February. It was presided over by Shri. Dhanpal Ganesh and Shri. Jerry Lalrinzuala (Indian Footballer & Chennaiyin FC players) and Dr.S.Salivahanan , Principal, SSN College of Engineering . The trophy is a perfect stage for the top teams from all the colleges competing for the huge prize money worth Rs. 4 lakhs. The trophy consists of eight different events- Football, Badminton, Cricket, Basketball, Chess, Squash, Table Tennis and Tennis for both men and women. Moreover, on the same dates, we are organizing the SSN CUP 2K19 (State Level Inter - Engineering Volleyball Tournament for Men)

(More info in the student write up section)

Info to Alumni- Group Update

Shiv Nadar Foundation's Annual Leadership Conclave was organized at HCL Campus on 16th Feb, at HCL Campus, Delhi.

Info to Alumni- Department Update

External Recognition:

Dr. N. Nallusamy, Professor, reviewed the technical paper titled "Experimental study on performance and emission characteristics of CI engine handling biodiesel blends with electronic fumigation" for the international journal "HELIYON" published by Elsevier. [01.02.2019]



Dr. N. Nallusamy

Dr. N. Nallusamy, Professor, reviewed the technical paper titled "SI engine operating with methane and hydrogen-rich syngas blends for application in razilian parboiling industries: emissions and performance" for the international journal "Environmental Progress & Sustainable Energy" published by John Wiley & Sons. [08.02.2019]



Dr. L. Poovazhagan

Dr. L. Poovazhagan, Assoc. Prof./Mech., delivered a guest lecture at St Joseph's Institute of Technology, Semmancherry, OMR, Chennai for second year Mechanical Engineering students on the topic of "Sheet metals". [15.02.2019]



Dr. K. Rajkumar

Project Sanctioned

DST-SERB-Core Research Grant funded project titled 'Hybrid casting approach for manufacturing Magnesium nano-composites' worth Rs 27,00,000 (approximately) has been approved for funding. Principal Investigator: Dr. L. Poovazhagan/Assoc. Prof/Mechanical Engineering; Co-investigator: Dr. K. Rajkumar/Assoc. Prof/Mechanical Engineering. [22.02.2019]

Dr. M. Nalla Mohamed submitted a project proposal to Armament Research Board titled "Development of Shear-Stiffening Gel Doped (Kevlar/Stf/Graphene Based) Body armour for Improving Ballistic Performance" with a funding request is Rs. 30,18,927. [31.02.2019]



Dr. M. Nalla Mohamed

Research Activities

Dr S. Suresh Kumar has published a research paper titled "Mixed-Mode Stress Intensity Factor Estimation of Inclined Cracks in an Un-notched Round Bar" in the international Journal of Failure Analysis and Prevention, Springer, Feb 2019.[28.03.2019]



Department Activities

Dr. L. Poovazhagan, Dr. K. Rajkumar and Dr. B. Anand Ronald, Assoc. Professors/Mechanical Engg., organized a one-day workshop on "Electrical discharge machining". [16.02.2019]



Dr. N. Lakshmi
Narasimhan

Dr. N. Lakshmi Narasimhan, Associate Prof/Mech, accompanied the students for Off-Campus placement process at Brakes India Ltd. (TVS), Padi, Chennai. [02.02.2019]



Dr. B. Anand Ronald

Dr. B. Anand Ronald, Dr.K. Rajkumar and Dr. L. Poovazhagan, Assoc. Prof./Mech., conducted a One Day Workshop on "Fabrication of Polymer Matrix Composites". [22.02.2019]

Mr. B. Jayakishan, Asst. Prof, Mech., organised a three-day Workshop on Design and Fabrication of DIY GoKart, at SSNCE. [21.02.2019 – 23.02.2019]

Dr. R. Prakash, Dr. S. Rajkumar Associate Professor, Mech. and Mr. B. Jayakishan Asst. Prof, organised the One Day Workshop on "MATLAB Programming" at SSNCE. [27.02.2019]



Dr. R. Prakash



Mr. B. Jayakishan



Dr. S. Rajkumar



Dr. K. Jayakumar

DC Meet

Dr. K. Jayakumar, Associate Professor conducted the Confirmation DC meeting for his part time PhD scholar Mr.K. Muruganantham. [16-2-2019]

Student Activity

Aneesh, Yuvan, Mithun and Mahalakshmi (2nd Year, Mech) organized Saaral Tamil Thiruvuzha which included multiple competitions and cultural events. [18.02.2019]

Subhash(3rd Year, Mech) participated in RC Nitro racing event held at Manakula Vinayagar Institute of Technology, Pondicherry. [08.02.2019]

Chidambaram and Marimurugan (3rd Year, Mech) organized a DIY Go Kart Workshop in collaboration with Madras Strokes at SSN College of Engineering. [21.02.2019 – 23.02.2019]

Nashar Ahamed, S,Vimaleswar Babureddy and Shrivatsav (Final Year, Mech) project has been selected as one of the top 10 projects for the finale in DIAMLER VIGYAAN competition. [06.02.2019]

Murali and Nirmal (Final Year, Mech) project has been selected as one of the top 10 projects for the finale in DIAMLER VIGYAAN competition. [06.02.2019]

Nitin Joy and Pratheeshhkumar (Final Year, Mech) successfully organised the MELA to promote entrepreneurship. [07.02.2019]

Vishal B and Neil Ashwin (Final Year, Mech) displayed their project as a part of the SSN innovation day. [08.02.2019 – 09.02.2019]

Subramaniam R and Nitin (Final Year, Mech) displayed their project as a part of the SSN innovation day. [08.02.2019 – 09.02.2019]

Rahul and Yashaswin (Final Year, Mech) helped organize the SSN Trophy 2k19. [22.02.2019 – 25.02.2019]

Faculty write up

Dr. B. Anand Ronald , Asso Prof/Mech writes...

One Day workshop on “Fabrication of Polymer Matrix Composites”- Report



Dr. B. Anand Ronald



Dr. K. Rajkumar



Dr. L. Poovazhagan

The One Day workshop on “Fabrication of Polymer Matrix Composites” was held on 22 Feb. 2019, in the Department of Mechanical Engineering. The Co-ordinators of the Workshop were **Dr. B. Anand Ronald, Dr.K.Rajkumar and Dr. L. Poovazhagan.**

Around 50 candidates belonging to different institutions from Tamilnadu participated in the workshop. The morning sessions were handled by Dr. B. Anand Ronald on the different fabrication routes for Polymer Matrix Composites. The next session was handled by Dr. K. Rajkumar on Conductive, Natural and Bio- Polymers.

In the afternoon session a live demonstration on fabrication of Polymer Matrix Composites was given on making **FRP Laminates and FRP Pipes**. The participants were appreciative of the efforts and wanted to be invited for similar workshops in the future.



Entrepreneurship awareness camp

A three day Entrepreneurship awareness camp (EAC) was organized by SSN College of Engineering and SSN Incubation Centre with the support of Entrepreneurship Development Institute of India NSTEDB, DST from 11.02.2019 to 13.02.2019. Fifty two undergraduate students from various departments registered and participated in the event with great enthusiasm. The three day camp covered various lectures, activity and interactive sessions on Awareness on Entrepreneurship, Preparation of Business Plan, Business Quiz, Finance & Accounting, Identification of Business Opportunities, Product Identification and Project report preparation, Intellectual



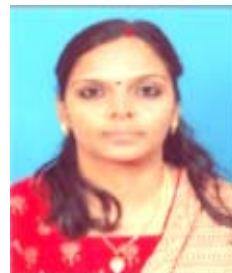
Property Rights, Business Technology Contest, Innovation Strategies, Creative start-ups and Brain challenging game event handled by eminent guests and our own faculty members. The students were honoured with Best Performer Award, Best Learner Award and Emerging Leader Award based on their active participation in the events. The event turned out to be grand success for the fifth consecutive year.

The Conveners: Dr.R.Seyezhai and Mr. Amit Tyagi

The Co-ordinators: Dr.K.S.Jayakumar, Dr. Vimal Samsingh and Ms.D.Umarani



Mr. Amit Tyagi



Dr.R.Seyezhai



Dr.K.S.Jayakumar



Dr. Vimal Samsingh



Ms.D.Umarani

Faculty write up

Dr. K.S. Vijay Sekar, Assoc. Prof/Mech writes...

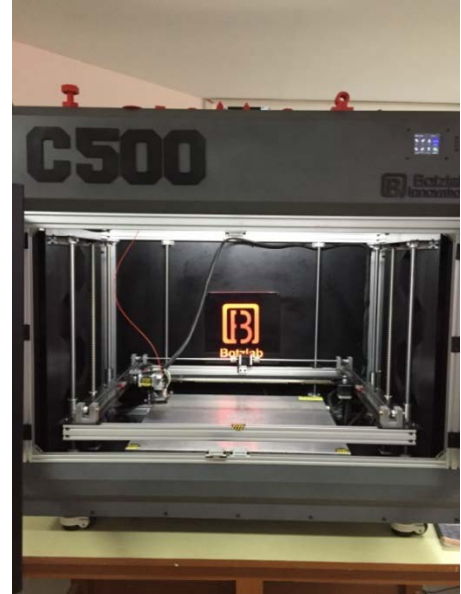
3D Printer facility added to CAD/CAM Lab, Mechanical Engineering Department



Dr. K.S. Vijay Sekar

The CAD/CAM lab of the Mechanical Engineering Department has added a 3D printer - BOTZLAB DRONA 500 C, which is capable of printing PLA, ABS, PVA, HIPS, Wood etc., with a range of 500 mm x 500 mm x 500 mm, layer resolution of 0.1 to 0.3 mm, nozzle diameter of 0.4 mm, filament diameter of 1.75mm, Printing speed of 10 to 60 mm/s, and maximum extruded temperature up to 275 degree C. The CAD model is sliced using the Cure/Slicr3/KIS Slicer with SD card and USB interfacing options and capable of a range of 50 to 300 microns, with

sensors to indicate filament run out. The entire unit is sealed when in printing mode with a glass cover to observe the printing process. The product was purchased from USAM technology solutions, Chennai at a cost of 7.55 lakhs. The 3D printer addition to the CAD/CAM lab has equipped us to demonstrate and build prototypes, which is a step ahead in our design cycle which was restricted to 3D modelling and machining till date. The M.E. Manufacturing program has a course on Additive manufacturing and these students will benefit from the practice on the 3D printer. Henceforth students will learn to draw basic curves, complex geometries, perform finite element analysis and also visualize the CAD models through this printing facility, which promises to enhance their understanding of the RPT / FDM technology. The CAD/CAM Lab technical staff have been given basic training on the operations by USAM and are applying the learning in printing CAD models.



Faculty write up

Dr. B. Jayakishan, Assis. Prof/Mech writes...

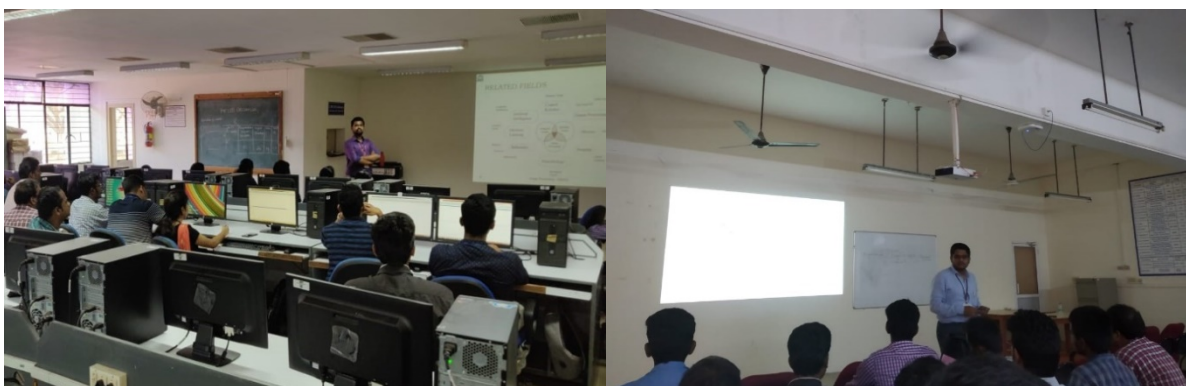
Report for Workshop on Matlab Programming

The Department of Mechanical Engineering, SSN College of Engineering organised a one-day workshop on Matlab Programming on 27th Feb, 2019. The objectives of the workshop were to create awareness to students on various applications of Matlab Programming. The topics concentrated were Image Processing and Simulink based Discrete Fourier Transform Solution Solving. The morning session was handled by Mr. C. Arun Prakash, Assistant Professor in the Mechanical Department who explained the basics of Matlab and Image Processing toolbox. Image Processing in Matlab is an easy task if you have Image Processing Toolbox installed in Matlab. Image Processing Toolbox provides a comprehensive set of reference-standard algorithms and workflow apps for image processing, analysis, visualization, and algorithm development. You can perform image segmentation, image enhancement, noise reduction, geometric transformations, image registration, and 3D image processing.

The afternoon session was handled by Dr. S. Somasundaram, Associate Professor in the Mechanical Department who explained about Fourier transforms and how to use Simulink as a tool for mechanical applications. The lecture concentrated on mathematical techniques like POD - Proper Orthogonal Decomposition and DFT - Discrete Fourier Transform.



Dr. B. Jayakishan



They can be used where data is collected over the time period. Additionally, the lecture also gave information on how to use Simulink to graphically solve governing equations. From the basic governing equations, the audience were asked to solve a shell and tube heat exchanger equation and a spring mass system equation. Both the sessions were very interactive and involved hands on solving. The students felt both sessions were extremely informative but had limited time for trying out more problems. We thank the Mechanical Department and the SSNCE Management for the support.

Faculty Write Up

Dr.M.Nalla Mohamed, Assoc. Prof/Mech writes...

Guest lecture on “fun with microstructures”



Dr.M.Nalla Mohamed

Dr.Anandh Subramaniam, Associate Professor, I.I.T.Kanpur gave a guest lecture on 27/02/19. The lecture was arranged by Dr.M.Nalla Mohamed and Dr.Ananthapadmanaban. The topic was **fun with microstructures**. Normally, microstructures seem to be like modern art to the students, but this topic was handled with aplomb by the speaker with some videos .Dr.Anandh pointed out practical examples from nature like the lotus leaf and Calcium shells. He explained how the structures of these materials influence properties.

Dr.Anandh assured the students that in many ways students in private colleges are not conditioned like I.I.T students and they could do very well in life as good, if not better than I.I.T students. He showed some videos of nano-structured materials, SEM Micrographs, TEM and AFM structures. He was impressed with the knowledge level of the students as was evidenced by their enthusiastic response.

The students and faculty members wanted to know if joint work between his group and students at SSN was possible. This was answered positively. For example-Finite Element modelling of dislocations could be done by our students in our lab using ABAQUS. Theories could be analysed by faculty members and compared with the modelling work. This work could be published in Journals. Carrying the discussion forward, internships at I.I.T, Kanpur was also discussed and the answer was- It is possible provided students are willing to stay in Kanpur for 2-3 weeks. The students and faculty left the hall with some new ideas on approaching research in Materials Science.



Report on the 2 Day Workshop Conducted At I.I.T.,Madras

I was fortunate to attend the 2 day workshop at I.I.T, Madras on February 15th and 16th, 2019. This workshop was jointly organized by I.I.T, Madras, Centre for excellence in Iron and Steel and Indian Institute of Welding.

The 1st lecture was delivered by Dr.Venugopalan, a veteran in the Industry and from Tata steel, now with I.I.T, Madras. He talked about 3 generations of Advanced High strength steels and how where we are as far as its development goes. He brought out the history of AHSS right from the 1960s and also pointed out that some concepts that they were taught in the 1970s may not be relevant today. The talk was more related to castability of high strength steel. The next talk was given by Dr.Murugaiyyan Amrithalingam, one of the coordinators of the course. He brought out weldability aspects of high strength steels and made a detailed presentation of the various methods being developed by his research group used to improve weldability.



The afternoon session was handled by Dr. Stephan Egerland from Fronius, Austria. Dr Egerland is on the Technical committee of International Institute of Welding. He should be above 65 years of age, but his energy levels and cheerfulness were amazing and worth emulating by all.

The second day consisted of talks by Dr.Janakiram from I.I.T, Madras and Mr.Prabhu, Chairman, IIW, India. There was also a good talk on the effect of hydrogen on steels by Dr.Shaju Albert from IGCAR. The afternoon session was handled by the Austrian company Fronius, who are pioneers in welding research. They took us around the welding lab. It should be mentioned that I.I.T, Madras and Fronius are working together in some Industry oriented projects and have also bought equipment from Fronius. On the whole, I learnt something new in welding and was able to make important contacts and also re-establish my old contacts with my Alma Mater.



Write-up on visit to HCL on Jan 31 2019

The HCL TechBee scholars who are getting trained here got their first chance to prove their learnings on January, 2019. The session for Mechanical-Automation domain started in the afternoon which was initiated by Mrs. Ambika, in charge for TechBee, Chennai area. The gathering consisted of our director Dr. Alval and ERS members like Alwin, Srinivasa Rao and others from various other domains inside HCL.

Dr. Vimal Sam Singh gave a small briefing about the course and initiated the presentations. The entire Mech-Automation batch was split into seven teams with seven different ideas.

1. Versatile Robotic Arm

The first project presented was on Versatile Robotic Arm by Abitha, Gayathri, Suriyan, Dhanush, Kamali, Tamil Periyar and Jacqueline. The objectives of the work were to fabricate a Compact, Versatile, Mobile and Programmable Robotic Arm which can transmit visual data from impenetrable areas and which can demonstrate pick and place action, metal detecting operation and wire cutting operation. It is devised for applications like military fields, for detecting, diffusing or disposal of bombs. It is also designed with higher flexibility to make it look sleek in design with a user friendly interface for controlling the robotic arm, which will be simpler and easier to use than the present interface which we are planning on.

2. Himartica Air cooler

The second was on air cooling named as Himartica air cooler presented by the team of Harishma Devi, Ankita, Kavitha, Jayabharathi, Atshaya and Kavi Priya. They projected their ideas of changing the already existing air coolers. The main objective is to make the air cooler work at humid region by using desiccant and phase change material(pcm). The main aim is to give a cooling temperature of 26-28 degree Celsius for a cooling capacity for less than 70 sq. ft. area. The project is focused in comparing the efficiencies of the newly designed air cooler theoretically and numerically.

3. Bio-mimetics of birds claw in clamps for flying machines

The third project idea presented was bio-mimetics of birds claw in clamps for flying machines by Thivya Priya, Prem Anand, Yuvaraj, Jeeva Kumar, Sri Lokesh and Preethika. The project deals with designing a clamp which resembles a bird claw and functions like a claw giving remote relocation abilities to a flying machines like a quadcopter. The main objectives of the project are to validate a mechanism that can mimic the gripping and retracting the claw action and to design and automate the mechanism using an Arduino control. Finally, to apply the setup to a flying quad copter and test it in a real time environment.

4. Design and development of experimental setup to fabricate Archimedean Spiral slots

The fourth team presented their idea on a rather old but unknown application titled Design and development of experimental setup to fabricate Archimedean SPIRAL slots by Jeeva Govindaraj, Ashvikaa, Abinash, Dhanush, Srinivasan and Selva Preethi. The idea to work with the Archimedean spiral was just out of curiosity when the students came across a three jaw chuck in the Manufacturing Lab. As there was no clear methodology for the generation of this spiral the team took it up as a project. Their main objective is to design and fabricate an Archimedean spiral slot making setup with the standard components and power transmission units present in the available labs.

5. Detecting dark

The fifth project presentation was on detecting dark which was presented by Prakash, Nilofer Parveen, Hajara Shafeeka, Bala Kumar, Lavanya, and Deepak Raja. The objective of the project is to make a robot, similar to spherical robot which can travel both in land and water, to fix a thermal camera, PIR (Plasma Infrared Radiation) sensor and a GPS tracker to the robot. The robot is used to assist the rescuer to rescue the people caught inside the cave.

6. Programmed grass trimmer

The sixth project presentation was on Programmed grass trimmer which was presented by Aravind, Sarmila Devi, Keerthana Priya, Devi, Deepa, Joel Emmanuel. The objective of the project is to automate the lawn mower and to differentiate objects (i.e. grass and stones) and to cut the grass at adjustable heights and to use the mown grass for cattle feed.

7. Analysis and implementation of PLC based conveyor system

The last team presented their idea on a conveyor system which is controlled by PLC and how the analysis and implementation of the system is carried out. The presentation was done by Kamesh, Nitesh, Selva Kumar, Sushil Kumar and Chandran.

The main objectives of the project are to simplify the PLC program which is being used in the conveyor system and to analyze the efficiency of the motor by varying torque and the distance between two loads acting on the conveyor belt and at last reconfigure the PLC by recoding the program which is already existing. The project also focuses on complete knowledge on the various electrical motor systems and motor software in order to give a successful working model of the conveyor and the control units



Placement Write up
Titan

I'm sharing my experience with the Titan placement process. The first round had an aptitude and psychometric test. Every company expects its employees to have a basic knowledge on finding quick solutions to problems, handling a given situation with ease and carry a positive attitude towards work and environment. Having met their expectations in the first round, we proceeded into the second round which was a group discussion.

This round was aimed at checking the communication skills and the ability of a person to raise out his/her voice with a proper point. Knowledge on current affairs, general knowledge and a basic knowledge on politics could help clearing this round. Do keep in mind to keep your points constructive and crisp, and also allow the other members to speak. Encourage others about their valid point or object if it is unacceptable. This is ultimately to check how good you work with others in a team.

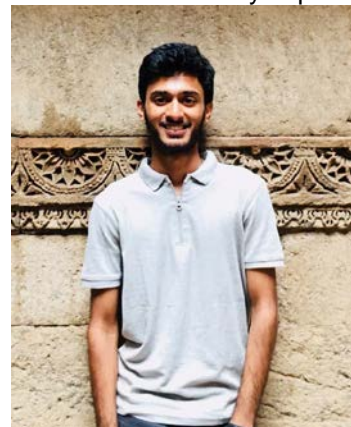
The third round was an interview round that combined both HR and technical questions. Though I was prepared for the technical round expecting it to contain a few theoretical questions from our syllabus, certain questions about the application of theories and basic logical scenario type questions were asked to the other students. Surprisingly for me, it was a simple HR round and I do not have any experience to share on the technical aspects.

I had the following questions in my HR round, and I hope this is the usual set of questions for which almost all of us would be prepared.

1. Introduce yourself.
2. Explain to us your project in detail.
3. What was your role in the project?
4. What's your area of interest and questions about the same?
5. Where would you like to work within India if given a posting?
6. Do you have any idea to do further studies after your UG?

Getting selected highly depends on individual answers. Let me share a few tactics which I adopted,

1. Be sure about what is there in your resume. Any question from it, you should be able to clearly explain.
2. Show some enthusiasm.
3. Be confident about what you have to say.
4. Don't be afraid of saying "I don't know". Stop there not. Say "I would like to know the same from you if possible". This could impress the interviewer.
5. Don't hesitate to get your doubts clarified.
6. Highlight politely about your achievements
7. Maintain your cool and yes, it should be evident in your face even when tricky questions are asked.
8. Ensure your answer to every question is long enough to cover important aspects and short enough to arouse interest.



These tricks proved fruitful for me. Hope my experience and tips help you in your forthcoming interviews. All the best dear friends!!

Student Write Up

Mohitha U M, Third year, Mechanical Engineering
Industrial Visit

The 3rd year B section students were taken on an Industrial Visit to Balaji Industries, an OEM of automobile components in Ambattur, on 28th February.

We were shown the different processes in the manufacturing of crank rocker, clutch plate, valves like grooving, chamfering, drilling counter boring, deburring using machine tools like lathe, drilling machine, CNC, etc. and inspection methods employed using dial gauges, go and no go gauges, air gauge, etc. We were also taken to the forging plant where we got to see the shearing, forging and trimming processes. A few of us were given the opportunity to work on the machines.

We got to know about the level of coordination among the different departments in the company and the work of the employees there. We also got to know about the internship offers available there. It was a really good experience, enabling us to relate the theory we learnt with the actual work done in industries.



The much anticipated 'SSN Trophy 2k19' was held from 22nd to 25th of February. The chief guests for the inaugural were Mr. Dhanpal Ganesh and Mr. Jerry Lalrinzuala, who play for the Indian football team and Chennaiyin FC. The whole event was organized by Dr. P. Balaji, Director of Physical Education.

There were events in 8 sports spread across 3 days of the Trophy. These included Football (Men), Cricket (Men), Table Tennis (Men/Women), Squash (Men/Women), Chess (Men/Women), Badminton (Men/Women), Tennis (Men/Women), Basketball (Men/Women). There was active participation from a lot of teams from Kerala, Bangalore, Coimbatore, Gumudipundi and Chennai.

The Valedictory address was delivered by Mr. Aravind Annadurai, a well-accomplished Indian Basketball player and presently an Income Tax Inspector. Our Team from SSN won the Men's Table Tennis Event. Hindustan Arts College won the Men's Football event. Cash prizes worth Rs. 3 lakhs were awarded.



Innovation Day



Thanks to the efforts of Prof. Idichandy, Chief Mentor of the Innovation Centre, SSN's first Innovation Day was organized on February 7th. Innovation is something that sparks creations that will benefit any field in the future. Being an Engineer, it deems one to be an innovator, a visionary, someone who creates new technology for a better sustainable future. And one such day that celebrated the creative talents of SSN was the INNOVATION DAY which was held on the 7th of February '19 at the Justice Pratap Singh Auditorium.

The grand celebration of Innovators of SSN began to motivate students to take to research and this year too it celebrated many of the students from various departments for their contribution. To start the day, the President of SSN, Dr. Kala Vijaykumar addressed the crowd and spoke very enthusiastically of the achievements that SSN had made to come up to this state and for the much varied and appreciated the approach of the youngsters as Engineers in the 21st century. She went on to state that SSN students are one of the largest communities to take to undergraduate research and publish a large number of papers in well-established journals and it went on to prove the heights that SSN students strive to achieve. As the progress reports and contributions of students to SSN and SSN to the world continued, the Principal Dr. Salivahanan, Dr. V.G. Idichandy, Dr. P. Ramasamy, and Dr. Ashok Jhunjunwala shared their profound knowledge of these achievements and their effects on the current society.

If only all of this, the first 15 minutes to the beginning of Innovation of another year at SSN wasn't motivating enough, the Chief Guest, Dr. Ashok Jhunjunwala, addressed the crowd with his ideas and his lifelong service to Research and Innovation alone at the IIT Madras Research Development Centre. He greeted his eager crowd with an introduction to his ideas of Innovation.

"15 years back, the state of research was not upgraded; it was only about 15%. However now, the changes in society have brought up research such that it is the highest priority!"

He brought up the current research ideas undertaken under the IITM research park. Electric vehicles were the next goal to a pollution free India. The speech surely motivated the students to pursue research with even more enthusiasm.

Some of the contributions from the Mechanical Engineering students are as follows:



[Final year students Yogesha.Rand Yashaswin Harathi display projects of Dr. A.K Lakshminarayanan on "Eco-friendly friction stir welding process"]



[Final year students Vishal Narayanan and Neil Ashwin display their Valeo Innovation Challenge project on "Improved Escape Worthiness of Car Occupants under Drowning Environment"]



[Final year students Praveen and Shakthi display their project "FRP Auto Components"]



[Final year student Avneesh display their project "Finite Element Analysis of Machining of Metal Matrix Composites"]

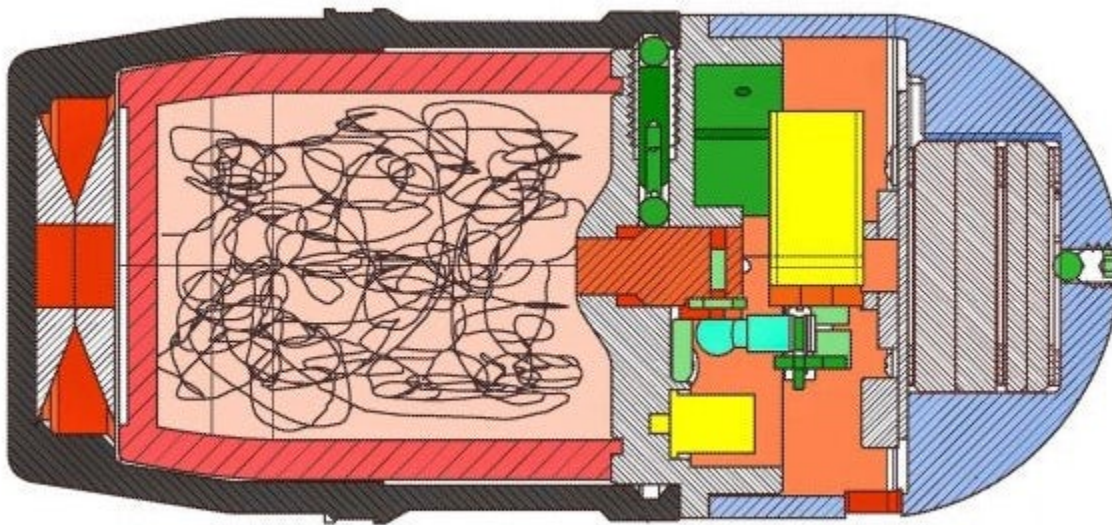
All in all, the Innovation day proved to be a great success and the students who attended the event and saw the display of projects were surely motivated to take to research and pursue it with great vigor.

US Army invents 40mm grenade that nets

As last month's grounding of flights at Gatwick Airport showed us, drones can cause a lot of problems – and they can even pose a security risk – when they're flown in the wrong places. Engineers with the US Army are developing a countermeasure, in the form of a drone-netting grenade.

The experimental 40-mm grenade was invented by Tomasz Blyskal, Richard Fong and LaMar Thompson at the Picatinny Arsenal in New Jersey.

Individual soldiers could shoot it at rogue drones using M320 portable grenade launchers, while heavy weapons platoons could utilize larger Mk-19 launchers. The former setup could target drones hundreds of yards away, while the latter has an even longer range.



Once the launched device nears an airborne drone, a servo within the grenade releases its ogive (nose) section. This allows a spring-loaded weighted net to be ejected forward out of the grenade's body. That net proceeds to spin through the air, spreading out 6 to 9 meters (20 to 30 ft) to ensnare the drone. The netted aircraft subsequently falls to the ground.

The servo is triggered via a signal from an integrated control board, which can in turn be remotely activated by someone on the ground, or by an onboard proximity sensor.

According to the army, initial tests have shown that the grenade is more effective than other approaches such as drones that net other drones, as no drone-piloting skills are required. Additionally, because one person could carry dozens of the grenades, the system would be better able to take down whole swarms of drones.

British engineering firm OpenWorks' portable SkyWall device also launches projectiles which in turn deploy drone-catching nets.

Source: <https://techlinkcenter.org/us-army-invents-40mm-grenade-that-nets-bad-drones/>

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Our products:

Covers
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Oil Filter
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Some of our clients:



If interested to work here, mail your resumes to: support@castwelauto.in

Amazing Innovation- 105

New welding process opens up uses for formerly un-weldable lightweight alloy

Developed in the 1940s, AA7075 is an aluminum alloy that's almost as strong as steel, yet it weighs just one third as much. Unfortunately, its use has been limited, due to the fact that pieces of it couldn't be securely welded together. That's recently changed, however, thanks to the use of titanium carbide nanoparticles.

Led by Prof. Xiaochun Li, a team at the UCLA Samueli School of Engineering set about addressing that problem. In the course of doing so, they fabricated thin rods made of 7075 infused with minuscule particles of titanium carbide. These rods were then placed between larger pieces of the aluminum alloy which were about to be joined, acting as a filler. When the rods and adjacent material were subsequently melted in an arc welding process, the nanoparticles eliminated the uneven flow issue.



"Nanoparticles make the elements in the liquid metal solidify together more uniformly, thus preventing phase segregation," Li tells us. "Phase segregation normally will block the liquid metal flow during cooling, thus inducing shrinkage and cracks without liquid filling. Since the metal solidifies more uniformly after adding nanoparticles, the liquid metal flows better during solidification, thus no cracking due to segregation."

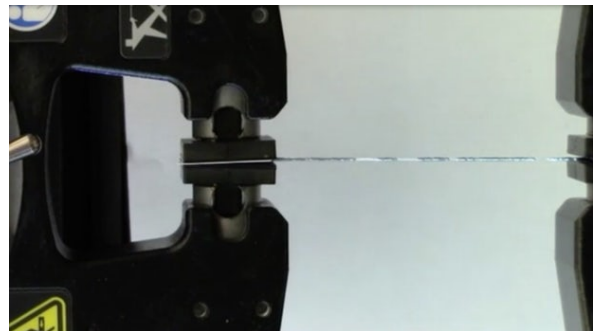
Source: <https://samueli.ucla.edu/nanotechnology-enables-engineers-to-weld-previously-un-weldable-aluminum-alloy/>

Amazing Innovation- 106

Hybrid fiber combines strength of metal and elasticity of rubber

Metal fibers are strong, but can't be stretched very far. Rubber fibers are stretchy, but they're not very strong. Scientists have combined the selling points of both materials into one type of hybrid fiber. It could be used in applications such as soft robotics, packaging materials, or high-tech textiles.

Developed by a team at North Carolina State University, the new fiber has a gallium metal core – a wire, in other words – which is surrounded by a SEBS (styrene-ethylene-butylene-styrene) elastic polymer sheath. When subjected to mechanical stress, the fiber initially has the strength of the core. Once that core does break, however, the polymer is still there to stretch, keeping the fiber as a whole from breaking.



As an added bonus, until it breaks, the metal core is capable of carrying an electrical current. And after a break has occurred, the gallium can be melted down to form back into a continuous unbroken core. And yes, the polymer does have a higher melting point than the gallium.

Source: https://www.eurekalert.org/pub_releases/2019-02/ncsu-rea022119.php

Amazing Innovation- 107

Bi-fuel hybrid camper van drives 1,000 miles and camps on pure battery power

A safety cone-orange Mitsubishi 4x4 camper van would typically be showstopper enough for any motorhome expo booth, but Campers Scotland came out blazing from both hands at this month's Scottish Caravan, Motorhome & Holiday Home Show, where it also debuted the Eco Explorer. Less rugged but still a 4x4, the hybrid Eco Explorer offers low fuel consumption and a self-charging battery system to keep the lights on and cooktop firing. An LPG option gives it three drive-power sources and up to 1,000 miles (1,600 km) of range per fill-up, while a deconstructed kitchen and sliding rear bench make it a capable everyday driver.



The idea is that the Eco Explorer's fridge, cooktop, dimmable LED light, USB ports and 12 V sockets stay powered via battery during the trip, all without the need for propane tanks or shore power hookups. Campervan Co even says that the electrical system can power handy accessories like coffeemakers and microwaves, and it suggests plugging in a slow cooker to prepare dinner on the long ride to camp.

Source: <http://www.campers-scotland.com/>

Amazing Innovation- 108

Circular garden makes growing veggies indoors even easier than before

OGarden, the Smart version is raising production finds on Kickstarter. And its makers are hoping for repeated success – the first campaign raised over €80,000 and attracted nearly 270 backers.

Up to 90 plants can be grown at the same time in the second generation indoor garden, including leafy greens, herbs, cherry tomatoes, baby peppers, strawberries and edible flowers. The eye-catching wheel can accommodate 60 plants, while an LED lit nursery shelf in the housing below can take 30.

Indoor gardening with the OGarden Smart starts with seed cups supplied by the company which are placed in the nursery cupboard and the start button pushed. If the list of available plants is not to your liking you can get a bag of virgin earth and seed your favorites.



OGarden's makers reckon that owners should shave a considerable amount from their shopping bills, while enjoying the benefits of fresh, organic fruits and veggies all year round – and without adding plastic packaging to the environment.

Source: <https://ogarden.org/en/>

Alumni Update 1

TS Murali, final year, writes on his Alumni Documentation series...

This time I cover a very interesting alumni Radheesh from the batch of 2014. Radheesh was an active researcher during his undergraduate with a strong interest in the area of fluid mechanics and machines. To his credit, he has 4 conference papers and 1 journal article which is currently under review.



D.Radheesh



TS Murali

He interned at IIT Madras in his third-year summer and interestingly went on to **take Project Associate position at IIT Madras for two years after his Bachelors**. He calls this period as a dedicated learning one and also told me that it helped him gain experience in his field of interest aka fluid mechanics and heat transfer in turbo machinery.

After this period, he went on to do his Masters in Applied Mechanics at the reputed Chalmers University of Technology in Sweden focussing on fluid dynamics and is now currently pursuing his Doctoral Studies in the area on Organic Rankine Cycles (ORG) for marine waste heat recovery at the Lappeenranta University of Technology, Finland.

He gives useful information about studies in Sweden and costs. Please find the document attached. (this has been separately sent by mail to all concerned). Students are encouraged to contact him at radheeshd@gmail.com for any further help and clarification.

For any suggestion or comments regarding the series, please write/reply to murali15054@mech.ssn.edu.in. We seek ways to make the series as efficient as possible with better questions.

Alumni Update 2

Exploring Education

Vishal , Mech Engg, 2012-16 batch, (From a mail to VeA)

Since my last email to you, quite a lot has transpired on my trip. I learnt a lot, worked quite hard and am now in Dharwad after finishing up in Nagaland and Cuddalore. (Leg 1 and 2 in the previous edition of Aspire)

LEG 3 : KANNARAPETTAI

In January, I was in Kannarapettai, a village near Cuddalore. Cuddalore is notorious for being one of the most backward districts in Tamil Nadu. A good friend of mine (ex-Teach for India fellow) runs a school there called the Sarva Seva Matriculation School funded and managed by the ASEFA foundation. I put my bags there for a week while my friend, Dhavina had chalked out a full-fledged plan to keep me continuously engaged for the 7 days I was there. In the school front, I was engaged in addressing the social science teachers on better ways to impart the curriculum, with 7th and 8th graders on how to learn history and also a short module on “how to think”. But what struck me the most during my stay was the tailoring unit in the school which was set up to aid livelihoods of the mothers of some of the students. Many women there live in penury and are struggling to make ends meet. Through this tailoring unit, these women learn how to make very nice bags, pouches, sleeves and bedsheets. I engaged with them for 4 days, conducting interviews and encouraging them to share their story. I told the managing team of the tailoring unit that if they would like I can come up with a digital marketing plan for them which could potentially boost sales because it was something the unit desperately needed.





I made the plan and explained it to the team. I also shared a post on my instagram profile and to my surprise, their instagram page got 400 followers overnight and were flooded with orders. It truly was a wonderful stay and I could leave satisfied that I was able to meaningfully contribute to the amazing work done there.

You could check out their instagram handle : @sura_kanavu

LEG 4: NAGALAND



Up next was a trip I was extremely excited and equally nervous about, my trip to Nagaland. I had written to the director of the Kohima Institute telling him that I am very interested in working in Nagaland and understanding that ecosystem better. The Kohima institute is an anthropological and higher-education research institute working in Nagaland and are doing some amazing work in documenting the diverse culture, customs and traditions of the numerous tribes that inhabit the wider Naga region of Nagaland, Assam and Manipur. They recently got sizeable grants from the World Bank and the University of Leeds to conduct research on global health projects in this area.

While I was prepared to be challenged, little did I expect it would be like this. The first night I got there, I found out that I had no place to stay because everything in Kohima is extremely expensive. A dingy small hotel charges INR 3000/night and I was to be here for 18 days. The director of the institute and I literally barged into a homestay we saw on Airbnb and requested him to put up with me for a couple of days before I could find alternate places to stay. He thankfully relented. Kohima also doesn't function past 5pm with all shops, restaurants and public transport shutting down. It also doesn't work on Sundays and weather reaches 5 degrees (for someone having lived in Chennai all his life, this was new). Thankfully, I had read up on most of this and had come adequately prepared.

Somehow, the people at the Institute pulled through and am now staying in a penthouse suite with a view to kill for and a kitchen to myself, all for INR 1500/night.

I was given three responsibilities at the Institute

- a) to create a digital marketing plan for them to engage more with their broad network
- b) to prepare a guidebook on Kohima for visitors to the Institute
- c) to sit in on their strategic meetings and to better articulate vision and research proposals for future grants.

I have just finished my trip and now am in Dharwad, Karnataka. It is rather interesting that the first place I have ever lived and worked in apart from Chennai is Kohima. I did not think of that in my wildest dreams :D

The Kohima institute works a lot in global health and engages with some top researchers from across the world in anthropological and policy based research for Nagaland. This has been a great experience for me to not just understand this amazingly diverse ecosystem but also to understand how policy and research works at the ground level as well.

The next step of my trip is in Dharwad and central Maharashtra. I will keep you guys posted.

Lots of love,

Vishal

Alumni Update 3

Reproduced from SSN Times:

Reported by Suraj.S, Mech, Final Year...

Suneesh Kaul, Mech Engg. Batch of 2012,

A source of inspiration is needed to push us out of comfort zones. Suneesh Kaul, our alumnus from the Mechanical Engineering Department went on to study at UC-Berkeley and currently works at Apple. The SSN Times had the chance to interact with this courteous person about how he turned his Silicon Valley dreams into reality. The following is a short snippet of the interaction.



Suneesh Kaul



Suraj.S

The SSN Times: What do you admire the most about SSN?

Kaul: SSN accelerated my intellectual and emotional growth. I gathered a unique perspective toward SSN's rich culture by taking part in various events. The practice of proliferating education among the less privileged, through life-changing scholarship schemes is amazing.

The SSN Times: If you were given a time machine to travel to the days at SSN, what moments would you like to bring back?

Kaul: One memory that will linger forever is Instincts. I hosted some events like the opening ceremony and the DJ night. Nothing I said seemed to get through to the audience. In sheer panic, I switched to compering in Tamil and opened a dialog with the crowd. I don't think I've received a louder cheer than I did that night. But if I had to choose a time I could return to, I would prefer "hanging out" in the company of my friends in the shade of our canteen while our professors were busy in class. These memories have a distinct flavour that one can't forget.

The SSN Times: Having received both academic and sports scholarship, how did you manage the time between playing squash and getting good grades? Also, what traits did you develop at SSN, which you

think are helping in your long run?

Kaul: Independence along with accountability taught me the science of prioritizing. SSN allows students to pursue passions oriented toward diverse segments. The constant cadence of weekly internal examinations kept me accountable to perform at my core engineering course. I maintained a stable academic record with the support of professors and peers. Through multiple setbacks, I reached a point where I was able to master this juggling act via effective prioritizing. It paid off in the form of multiple scholarships. At Apple, I consolidate copious amounts of information and report business health to executives at a similar weekly cadence. I also have open projects that divert a fair amount of attention from my core obligations.

The SSN Times: What made you choose squash over cricket- cricket being a cliched game in India?

Kaul: Squash was an up-and-coming sport during the time I started dabbling in it. As soon as I started playing, I felt an instant connection and fell in love with the speed and constant exhilaration. Cricket, at its pace, did not invoke the same kind of sentiment or emotional rush. In my opinion, popularity of a subject/entity shouldn't ideally be the driving factor.

The SSN Times: What qualities do you think that made you the best outgoing student of the year?

Kaul: Curiosity and a sense of adventure. I was an active part of around 8-10 organizations from intra-department collectives to cross-college clubs. My objective was to stay occupied always; it was a cherry on top if this came with the advantage of meeting new people and working on something unconventional. The honour of being named the best outgoing student was a happy surprise and a pure by-product of these curiosity driven pursuits.

The SSN Times: How did SSN and its environment help you in doing graduate studies at UCB?

Kaul: SSN encourages the use of online tools and I was an active user of SSN's intranet, relying on the notes. This laid a strong foundation for me as I entered an environment at Berkeley where everything was done online. I had gained plenty of confidence at SSN addressing audiences that profoundly helped me to present projects at Berkeley. The bi-weekly tests at SSN served as an appetizer for the examination cadence that I had to endure at Berkeley.

The SSN Times: How does it feel to have secured a spot at Apple? Was it your goal and were you working towards that while you were working for other companies?

Kaul: Apple is definitely one of the eminent companies to work for in Operations and Supply Chains. The 'can-do anything' culture at Apple is quite addictive; when combined with the exciting projects ingrains a sense of purpose in you. It was indeed my goal to work for a company with a pedigree in operational excellence. Having had experience in multiple strategic roles in my previous companies, I was seeking a more tactical role to develop a rich profile. More than anything else, I wanted to work in a firm, rooted into the Silicon Valley culture.

The SSN Times: Big data and Data analytics - do they play a major role in today's world? Should it be made a mandatory subject? How do you think it could be related to engineering?

Kaul: I attest to the fact that majority of the world's most successful firms are moving toward data-driven decision making. Skilled Data Analysts are hot commodities in the job market. I think it will be necessary for universities to make data analysis a fundamental course. As engineers, we are educated on structured problem solving. Most of our problems are either to assess the feasibility of, or to find ways to optimise an option. This serves as a foundation for data science which combines these skills with descriptive and inferential statistics.

The SSN Times: SSN has been granted an autonomous affiliation and what new changes do you think could add colours to the environment?

Kaul: Firstly, now that SSN has the liberty to design its own curriculum, a higher percentage could be attributed to hands-on projects. Grades should be determined by testing the applied understanding. Gates could be opened for students to minor at inter -disciplinary engineering courses of their interests. Given that we are not bound by the external timelines anymore, students can be encouraged to do internships in their vacations. Students can be allowed to do semester-long research internships for course credits. Similar to most top universities in India SSN

can offer the option of doing a semester abroad. An international exposure at an early stage can do wonders.

The SSN Times: Do you wish to give some advice to the current students of SSN? In your point of view what do you think they should be developing to face the cut throat competition?

Kaul: First, find ways to *stand out* from the crowd. Once you discover your distinctive trait, internalize it, and market it passionately. This will form the basis of the brand that is 'you'.

The second element is *persistence*. At times, finding a job or getting into a good Master's' program can be challenging. Take a deep breath and will yourself to power through.

If you love your field, I'm glad you have found your purpose; but for those who are still unclear or have proclivities toward other fields – Remember, the opportunities are endless. The key is to rise above the daily noise and to look at the bigger picture. Good luck!

The SSN Times: What do you feel about the yet another student run initiative - The SSN Times?

Kaul: It depends on how you shape this. The goal should be to cater to the needs of the students and publish information they would be interested in.

Suneesh Kaul currently works at Apple as the WW Material Program Manager after having attended UC Berkeley for his graduate studies. The SSN Times would like to thank Suneesh for taking the time to answer our questions.

About SSN Times:



The SSN Times is a college newsletter initiated by the SSN student body, launched on the first of January, 2019. From daring poetry to gripping fictitious tales; from arts to science; from the stories of successful alumni to talented achievers thriving within the walls of this institution, the newsletter aims to record and present the happenings within and beyond this 200 acre campus.

The SSN Times is here to be your ears and your voice.

*“Heroes are never rare;
they are un-sung.”*

It is available on playstore:

<https://play.google.com/store/apps/details?id=com.thesstimes.charan.sstimes>

Forthcoming events

Workshop/ Faculty Development Programs

March 2019

- Department of Mechanical Engineering at National Institute of Technology Calicut is organizing a six days GIAN course on “Advances in Combustion Modeling” during **4th to 9th March 2019** for students, research scholars, faculties, scientists and industrialists.
The last date of registration for this course is **1st February 2019**.
<http://www.nitc.ac.in/GIAN/GIAN-ADVANCES-MODELING.pdf>
- Department of Mechanical Engineering Mepco Schlenk Engineering College (Autonomous), Sivakasi, is organising a three day workshop on Conceptual Discussions and Practical Exposure on NDT Testing and Metal Inspection in collaboration with SRI SAI NDT Institute Pondicherry from **14th to 16th March**.
- A 2-day Short Term Course on **Vibration Monitoring Techniques for Machinery Fault Diagnosis**, is being organized by Discipline of Mechanical Engineering, Indian Institute of Technology Indore during **18-19 March, 2019**.
- The Department of Chemical Engineering of SSNCE is conducting a One Day **Workshop on Recent trends in solar energy research and applications** on **16th Mar 2019**, presided by eminent resource persons from **IIT Madras, SSN and other colleges**.
- CSIR-SERC, Chennai, India is one of the national laboratories under the Council of Scientific & Industrial Research (CSIR), India and a leading organisation for the analysis, design and testing of structures and structural components including special structures, is organising an Advanced Course on “Dynamic Wind loads and their Effects on Buildings and Special Structures” (DWEBS - 2019) during **13-15, March 2019**.

The advanced course will cover the following topics, introduction to wind engineering, structural dynamics, dynamic wind loads and their effects on buildings and various special structures and relevant codes of practice. During the advanced course, lectures will be delivered by the scientists of CSIR-SERC and by the other leading experts & technologists in the field of Wind Engineering.

The course brochure can be downloaded from <https://www.serc.res.in/course>.

March 2019

Conference

- Department of Mechanical Engineering of Bannari Amman Institute of Technology is organizing a two day International Conference on Materials, Manufacturing and Machining (ICMMM 2019) from **8– 9 March 2019**.
For more information visit www.icmmm19.com
- Department of Mechanical Engineering of SSNCE is organizing the Second International conference on "Sustainable Energy Resources, Materials and Technologies (ISERMAT 2019)" from **March 14-15, 2019**.

- The Department of Mechanical Engineering, National Institute of Technology Delhi (NITD) (an autonomous institute under the aegis of MHRD, Govt of India and an institute of national importance) is organizing 1st National Conference on Advances in Mechanical Engineering (NCAME) on **March 16, 2019**.

A detailed information has been uploaded on the following link:

<https://sites.google.com/nitdelhi.ac.in/ncame2019/home?authuser=0>
<https://easychair.org/cfp/NCAME-2019>

- The Department of Mechanical Engineering of SSNCE, is organizing the 2nd National Conference on **Mechanical Engineering Research Scholars (MERS -2019)** on **29th March 2019** (Friday). Last date for submission of abstract: 6th March 2019. All student researchers are encouraged to participate. Keynote lectures will focus on developing your research work into Journal publications.

April 2019

- Department of Mechanical Engineering- SSNCE is organizing the International Conference on Mechanical Engineering Design (ICMechD2019) during **18-19 April 2019**.
The deadline for abstract is **28 February 2019**. All accepted papers for the conference will be published in refereed Springer journal.

Website: <https://sites.google.com/ssn.edu.in/icmechd>

- Jyothi Engineering College, affiliated to APJ Abdul Kalam Technological University. Thrissur District, Kerala, is organising an “**International conference on Advancements in Mechanical Engineering (ICAME 2019) - Challenges towards Sustainable Development**” on **April 10-11, 2019**.

June 2019

- The Centre for Product Design and Manufacturing, Indian Institute of Science, Bangalore, is organizing an **International Conference on Industry 4.0 and Advanced Manufacturing (I-4AM 2019)** on **28th and 29th June 2019** for which call for papers deadline is 31st March 2019.

July 2019

- The 1st International Conference on Mechanical Power Transmission (ICMPT 2019) will be held at IIT Madras Campus, Chennai, India during **11-13 July 2019**. More information is available at ICMPT 2019.
- The 11th International Exergy, Energy and Environment Symposium (IEEEES-11) is organised by the Department of Automobile Engineering, SRM Institute of Science & Technology, Chennai, INDIA, during **14-18 July 2019**. More info: <http://www.srmuniv.ac.in/ieeees-11>

September 2019

- The Department of Chemical Engineering of SSNCE is organizing the First International Conference on Recent Trends in "Clean Technologies for Sustainable Environment (CTSE-19) during **26-27 September 2019**. Details in conference website- www.cleantechssn.com.

December 2019

- Department of Mechanical Engineering of the Indian Institute of Science (IISc) Bangalore, is conducting The International Conference on Industrial Tribology during **1-4 December 2019**. Complete details of the event at- <http://tribologyindia.org/>.

- Indian Institute of Technology (IIT) Bombay, is organizing the 7th International Conference on Advances in Energy Research (ICAER). The conference will be held from **10th to 12th December 2019** at VMCC, IIT Bombay.

Website- <http://www.ese.iitb.ac.in/icaer2019/conference.html#content1-1g>

- The 7th International Conference on Advances in Energy Research (ICAER) organized by the Department of Energy Science and Engineering, Indian Institute of Technology (IIT) Bombay, will be held from **10th to 12th December 2019** at VMCC, IIT Bombay, Mumbai, India.

Considering the many requests received for postponing the deadline for full paper submission, the deadline has been extended to 15 March 2019. Please note that there is **no separate abstract submission**. You may please directly submit your full paper using the conference submission platform, the details of which may be found at: <http://www.ese.iitb.ac.in/icaer2019/authors.html#content1-2a>.

Challenges/Contests

March 2019

As More and more technology emerges and lot of research work being carried out at various institutions, Its high time that companies find use cases for those research work and support in Development of that as products that is required in the market.

We at TITAN company value the kind of research work at Institutions and we would like to tap a little deep into it and understand and find applications suitable to us.

In that context, We would like to invite you and your institution to showcase the Projects/Recent Technologies/ Papers published/ patents/ Innovative solutions/Ideas developed at your end with respect to areas listed below to TITAN @ its "**Technology Tune-In 2.0 (TTI)**" forum .

Refer - Webpage - <https://titanntti.com/> for more details. Last date: **5th Mar'18**

May 2019

- Fentress Global Challenge: In line with the speculative nature of the competition, participants should seek to improve every dimension of the airport terminal building.

All entries should delve into one or more broad topic related to airport architecture and the future of aviation such as mobility, urbanization, globalization, technology, flexibility, security, project feasibility, and passenger experience in 2075.

For more details, visit <https://fentressglobalchallenge.com/competition-brief>

Last date for submission: 31 May 2019



Dr.Muthu Senthil Pandian
SSNResearch Centre

1. DST - BRICS Calls for Project Proposals for Multilateral R & D Projects - 2019

Aim of the Joint Call and Thematic areas

India will support collaborative multilateral basic, applied and innovation research projects.

Funding Support by DST

Maximum Indian support for each Project: upto Indian Rupees Rs. 50 lakhs approx. for 3 years' duration.

Process for submission of Joint Project Proposals

There are two levels of online submission systems to submit the joint R&D proposal.

i) Online Submission of Joint Application Form by one of the Project Coordinator to centralized Call Secretariat link <https://ams.rfbr.ru/BRICS>. (Closing date **April 25th, 2019**)

ii) Online submission of application by main PI in their own country to their funding agency in the prescribed Format at the link www.onlinedst.gov.in. In case of India, national component of application proposal to (Department of Science & Technology (Closing date **April 29th, 2019**)

Website Links:

<http://www.dst.gov.in/callforproposals/2019-brics-calls-proposals-multilateral-rd-projects>

2. DST - BRICS Calls for Project Proposals for Multilateral R & D Projects – 2019

DST and RFBR invite Indian and Russian scientists / researchers to submit proposals for Joint Research Project in the following areas of basic sciences under DST-RFBR cooperation:

- Mathematics, Mechanics and Informatics;
- Physics and Astronomy;
- Chemistry;
- Biology and Medical Sciences;
- Earth Sciences;
- Telecommunications and Computer Sciences;
- Fundamental of Engineering Sciences.

Kind of support available for Joint Project:

Each project will receive annual funding of up to Rs. 20,00,000 from DST and up to Rbls 20,00, 000 from RFBR. This funding will cover the following expenses in connection with a project. Last Date: **20th March 2019**

Website Links:

<http://www.dst.gov.in/callforproposals/indo-russian-joint-call-proposals-dst-rfbr>

<http://www.dst.gov.in/sites/default/files/RFBR%20Call%202019.pdf>

3.USIEF - Fulbright - Kalam Climate Fellowship 2020-2021, United States-India Educational Foundation (USIEF)

Fulbright-Kalam Climate Fellowships are offered for:

- **Doctoral Research:** These fellowships are designed for Indian scholars who are registered for a Ph.D. at an Indian institution. These fellowships are for six to nine months.
- **Postdoctoral Research:** These fellowships are designed for Indian faculty and researchers who are in the early stages of their research careers in India. Fulbright-Kalam Climate Fellowships will provide opportunities to talented faculty and researchers to strengthen their research capacities. Postdoctoral fellows will

have access to some of the finest resources in their areas of interest and will help build long-term collaborative relationships with U.S. faculty and institutions. These fellowships are for eight to 12 months.
Last date for submission of application: **15 July 2019**

Website Link: <http://www.usief.org.in/Fellowships/Fulbright-Kalam-Climate-Fellowship.aspx>

4. DST - Announcement for inviting Technologies / Innovation / Idea for support under ASEAN - India Science and Technology (S&T) Development Fund – 2019

In order to facilitate development, transfer and Innovate low cost technologies under AISTD, India and ASEAN agreed to institute a scheme "ASEAN-India Innovation Platform"(AIIP) to provide solutions to common problems of India and ASEAN for socio-economic development of India as well as ASEAN Region.

Goals and scope

The ASEAN-India Innovation Platform which basically aims to convert an Idea into a solution, shall have following components :

- [ASEAN India Innovation Platform- Product/Industry Innovation \(Developed by FICCI, New Delhi\)](#)
- [Social Innovation \(coordinated by NIF, Ahmadabad\)](#)
- [Research Innovation \(coordinated by NRDC, New Delhi\)](#)

Website Links:

<http://www.dst.gov.in/news/announcement-inviting-technologies-innovation-idea-support-under-asean-india-st-development>

<https://aistic.gov.in/ASEAN/aistdfInnovatPltm>

5. DST - Call for Project Proposals under CHORD (NSTMIS) Scheme – 2019

The Division sponsors research projects/studies to interested investigators/organizations under NSTMIS Scheme. The broader areas where studies could be taken up in the sponsored mode are S&T investment, S&T infrastructure, S&T output, S&T databases, S&T manpower, R&D productivity/efficiency etc. The thrust areas to be addressed for submission of research proposals under the NSTMIS Scheme are given below. However, proposals can also be submitted in other interrelated S&T areas for consideration.

Who Can Apply

Scientists, Technologists, Statisticians, Economists, Sociologists, Development/ Planning/ Policy Experts, Management Specialists etc. from academic/research institutions, registered societies, and consultants may submit their proposals in a prescribed format.

Last date of proposal submission is 31st March 2019

Website Links:

<http://www.dst.gov.in/callforproposals/chord-nstmis-scheme-call-proposals-2018-19>

6. DST - Project Proposals are invited for SwarnaJayanti Fellowships Scheme - 2019

Government of India had instituted a scheme titled "**SwarnaJayanti Fellowships**" to commemorate India's fiftieth year of Independence. Under this scheme a selected number of young scientists, with excellent track record, are provided special assistance and support to enable them to pursue research in frontier areas of science and technology. The fellowship is scientist specific and not institution specific.

Applications for the "**SwarnaJayanti Fellowships Scheme 2018-19**" are invited from eligible candidates. Candidates may log on onlinedst.gov.in from 15-02-2019 to access the homepage of the "DST e-PMS Portal" for details& downloading the format from SwarnaJayanti Fellowships Scheme and submit the application in online mode only. There is no need to send a hard copy.

The last date for submission of applications is **March 31, 2019**.

Website Links: <http://www.dst.gov.in/callforproposals/swarnajayanti-fellowships-scheme-2018-19>

Michael Jordan was born in 1963, in the slums of Brooklyn, New York. He had four siblings and his father's earnings were not sufficient to provide for the whole family.

He grew up in a poor neighborhood. Exposed to mindless violence and heavy discrimination in the slums, he saw for himself only a hopeless future. His father saw in Michael, a lost soul and decided to do something.

He gave Michael, who was 13 years old, a piece of used clothing and asked: "What do you think the value of this outfit would be?"

Jordan replied, "Maybe one dollar."

His father asked, "Can you sell it for two dollars? If you can sell it, it would mean that you are a big help to your family."

Jordan nodded his head, "I'll try, but no guarantee that I'll be successful."

Jordan carefully washed the cloth clean. Because they didn't have an iron, to smoothen the cloth, he levelled it with a clothes brush on a flat board, then kept it in the sun to dry. The next day, he brought the clothes to a crowded underground station. After offering it for more than six hours. Jordan finally managed to sell it for \$2. He took the two dollar bill and ran home.

After that, every day he looked for used clothing, washed and ironed it, and sold it in the crowd.

More than ten days later, his father again gave him a piece of used clothing, "Can you think of a way you can sell this for 20 bucks?"

Aghast, Jordan said, "How is it possible? This outfit can only fetch two dollars at the most."

His father replied, "Why don't you try it first? There might be a way."

After breaking his head for a few hours, finally, Jordan got an idea.

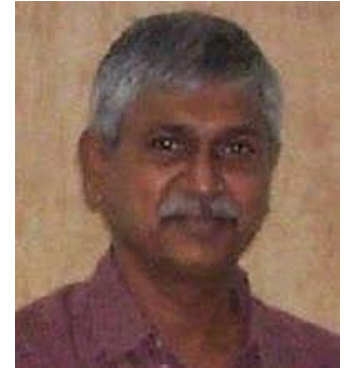
He asked for cousin's help to paint a picture of Donald Duck and Mickey Mouse on the garment. Then he tried to sell it in the school where the children of the rich study.

Soon a housekeeper, who was there to pick his master, bought that outfit for his master. The master was a little boy of only 10 years. He loved it so much and he gave a five dollar tip. 25 dollars was a huge amount for Jordan, the equivalent of a month's salary of his father.

When he got home, his father gave him yet another piece of used clothing, "Are you able to resell it at a price of 200 dollars?" Jordan's eyes lit up.

This time, Jordan accepted the clothes without the slightest doubt. Two months later a popular movie actress from the movie "Charlie's Angels", Farah Fawcett came to New York for her Movie promos. After the press conference, Jordan made his way through the security forces to reach the side of Farah Fawcett and requested her autograph on the piece of clothing. When Fawcett saw this innocent child asking for her autograph, she gladly signed it.

Jordan was shouting very excitedly, "This is a jersey signed by Miss Farah Fawcett, the selling price is 200 dollars!" He auctioned off the clothes, to a businessman for a price of 1,200 dollars!



Mr. Kishore Babu
Schwing Stetter

Upon returning home, his father broke into TEARS and said, "I am amazed that you did it My child! You're really great! "

That night, Jordan slept alongside his father. His father said, "Son, in your experience selling these three pieces of clothing, what did you learn about success?"

Jordan replied, "Where there's a will, there's a way."

His father nodded his head, then shook his head, "What you say is not entirely wrong! But that was not my intention.

I just wanted to show you that a piece of used clothing which is worth only a dollar can also be increased in value, Then how about us - living & thinking humans? We may be darker and poorer, but what if we CAN increase our VALUE."

This thought enlightened young Jordan. Even a piece of used clothing could be made dignified, then why not me?

There is absolutely no reason to underestimate myself.

From then on, Michael Jordan felt that his future would be beautiful and full of hope.

He went on to become the greatest basketball player of all times.

Moral of the story: How can I increase my own value? I am finding it a very interesting thought. I am sure, you too, will.

Contribution: Reji, Manager-HR, HO & Works, Schwing Stetter India Pvt. Ltd.

Thanks & Regards –

Kishore Babu
HR - Department
SCHWING Stetter India Private Limited

Corporate Wisdom 63

Problem Solving

One fine day, a bus driver went to the bus garage, started his bus, and drove off along the route. No problems for the first few stops-a few people got on, a few got off, and things went generally well.

At the next stop, however, a big hulk of a guy got on. Six feet eight, built like a wrestler, arms hanging down to the ground. He glared at the driver and said, "Big John doesn't need to pay!" and sat down at the back.

Did I mention that the driver was five feet three, thin, and basically meek? Well, he was. Naturally, he didn't argue with Big John, but he wasn't happy about it.

The next day the same thing happened-Big John got on again, made a show of refusing to pay, and sat down. And the next day, and the one after that and so forth.



This grated on the bus driver, who started losing sleep over the way Big John was taking advantage of him. Finally he could stand it no longer.

He signed up for body building courses, karate, judo, and all that good stuff. By the end of the summer, he had become quite strong; what's more, he felt really good about himself.

So on the next Monday, when Big John once again got on the bus and said, "Big John doesn't pay!," The driver stood up, glared back at the passenger, and screamed, "And why not?"

With a surprised look on his face, Big John replied, "Big John has a bus pass."

Lesson:

"Be sure of what is a problem in the first place before working hard to solve one"

Quite often in life we over-evaluate the problems and start working on huge solutions spending time, money, efforts, energy and focus, whereas, in reality, problems eventually are not that much big!

Most of Our life is full of problems of this kind.

#WishingMostAndMore

Have a great day

R.Ramakrishnan

This issue has an Annexure- Shiv Nadar Foundation's Leadership Conclave

The purpose of adding an Annexure is to enable forwarding specific content to persons who may be interested without the need to send the whole Newsletter.

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This edition of Aspire was compiled by Nitin Joy, with support from Sowmya K, CT Alagappan and Srivasupradha R



Nitin Joy



Sowmya K



CT Alagappan



Srivasupradha R