Newsletter

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SSN Mechanical Engineering

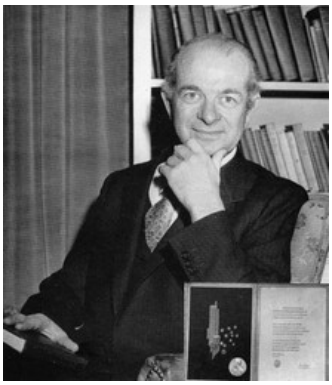
# Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 70

Linus Pauling

**It Takes Two To Bond!**



Linus Carl Pauling, born on February 28, 1901, in Portland, Oregon, is a theoretical physical chemist who became the only person to have won two unshared Nobel Prizes. His first prize (1954) was awarded for research into the nature of the chemical bond and its use in elucidating molecular structure; the second (1962) recognized his efforts to ban the testing of nuclear weapons.

Pauling attended the public elementary and high schools in the town of Condon and the city of Portland, Oregon, and entered the Oregon State College in 1917, receiving the degree of B.Sc. in chemical engineering in 1922. He served as a full-time teacher of quantitative analysis in the State College from 1919 to 1920, after which he was appointed a Teaching Fellow in Chemistry in the California Institute of Technology. He was a graduate student there from 1922 to 1925, working under Professor Roscoe G. Dickinson and Richard C. Tolman. In 1925 he was awarded the Ph.D. (summa cum laude) in chemistry, with minors in physics and mathematics.

Since 1919 his interest lay in the field of molecular structure and the nature of the chemical bond, inspired by papers by Irving Langmuir on the application of the Lewis theory of the sharing of pairs of electrons between atoms to many substances. In 1921 he suggested, and attempted to carry out, an experiment on the orientation of iron atoms by a magnetic field, through the electrolytic deposition of a layer of iron in a strong magnetic field and the determination of the orientation of the iron crystallises by polishing and etching the deposit, and microscopic examination of the etch figures. With Professor Dickinson, he began in 1922 the experimental determination of the structures of some crystals and started theoretical work on the nature of the chemical bond.

Since his appointment to the Staff of California Institute of Technology, Professor Pauling was elected Research Associate in 1925; National Research Fellow in Chemistry, 1925-1926; Fellow of the John Simon Guggenheim Memorial Foundation, 1926-1927; Assistant Professor of Chemistry, 1927-1929; Associate Professor, 1929-1931; Professor, 1931, when he was the first recipient of the American Chemical Society Award in Pure Chemistry – the Langmuir Prize – and Chairman of the Division of Chemistry and Chemical Engineering, and Director of the Gates and Crellin laboratories of Chemistry, 1936-1958.

During the 1950s Pauling and his wife, Ava Helen Miller became well known to the public through their crusade to stop the atmospheric testing of nuclear weapons. In 1958 they presented an appeal for a test ban to the United Nations in the form of a document signed by 9,235 scientists from 44 countries. Pauling's sentiments were also promulgated through his book No More War! (1958). In 1960 he was called upon to defend his actions regarding a test ban before a congressional subcommittee. By refusing to reveal the names of those who had helped him collect signatures, he risked going to jail—a stand initially condemned but later widely admired. His work on behalf of world peace was recognized with the 1962 Nobel Prize for Peace awarded on October 10, 1963, the date that the Nuclear Test Ban

Treaty went into effect.

Pauling's Peace Prize generated such antagonism from Caltech administrators that he left the institute in 1963. He became a staff member at the Center for the Study of Democratic Institutions in Santa Barbara, California, where his humanitarian work was encouraged. Although he was able to develop a new model of the atomic nucleus while working at the Center, his desire to perform more experimental research led him to a research professorship at the University of California in San Diego in 1967. Two years later he accepted a post at Stanford University, where he worked until 1972.

While at San Diego and Stanford, Pauling's scientific interests centered on a particular molecule—ascorbic acid (vitamin C). He examined the published reports about this vitamin and concluded that, when taken in large enough quantities (megadoses), it would help the body fight off colds and other diseases and published the book *Vitamin C and the Common Cold* (1970). Pauling's interest in vitamin C and orthomolecular medicine led, in 1973, to his founding an institute that bore his name—the Linus Pauling Institute of Science and Medicine. During his tenure at this institute, he faced controversies about the benefits and risks of ingesting megadoses of various vitamins. Pauling and his collaborator, the Scottish physician Ewan Cameron, published their views in Cancer and Vitamin C (1979). Their ideas were subjected to experimental animal studies funded by the institute. While these studies supported their ideas, investigations at the Mayo Clinic involving human cancer patients did not corroborate Pauling's results.

Although he continued to receive recognition for his earlier accomplishments, Pauling's later work provoked considerable skepticism and controversy. His cluster model of the atomic nucleus was rejected by physicists, his interpretation of the newly discovered quasicrystals received little support, and his ideas on vitamin C were rejected by the medical establishment.

In 1991, Pauling discovered that he had prostate cancer. Although he underwent surgery and other treatments, the cancer eventually spread to his liver. He died at his ranch on the Big Sur coast of California. Pauling's discoveries led to decisive contributions in a diverse array of areas including around 350 publications in the fields of quantum mechanics, inorganic chemistry, organic chemistry, protein structure, molecular biology, and medicine.

Source:
https://www.nobelprize.org/prizes/peace/1962/pauling/biographical/

## Info to Alumni- Campus Update

Principal Dr. S. Salivahanan writes…

I am pleased to inform that, (i) the IEEE Student Branch of our College has won "IEEE Regional Exemplary Student Branch Award (2019)" and (ii) Dr. T. Sree Sharmila, SSN IEEE Student Branch Counsellor has won "2019 Outstanding Branch Counsellor & Advisor Award" from IEEE Member & Geographic Activities (MGA), USA.

Dr S Salivahanan

On 03, September 2019, Facilities Management team had arranged for a Special Camp of Indian Postal Department at SSN premises. It was arranged for three days from 3rd Sep'19 to 5th Sep'19. All postal services and Aadhar related services were on offer.

Mr. K Ganesh Prasad
GM, Facilities

**Other Info:**

The Teachers Day Celebrations were held on 05 September, 2019 at SSNCE.

The Institution of Engineers India's Student Chapters were formed for the various departments. Dr. N Lakshmi Narasimhan is the faculty advisor for the Student Chapter of the Department of Mechanical Engineering.

The classes for First Year ME / M Tech commenced on 11 September, 2019.

On 13 and 14 September, 2019, the National Level Technical Symposium, **Invente**, was held in SSN College of Engineering.

Between 19-21 September, 2019, SSN Research Centre, SSN Institutions in association with Elavenil Science Association, Indian Science and Technology Association (ISTA), Indian Association for Crystal Growth (IACG) and Indian Spectrophysics Association (ISPA) organized the "3rd International Conference on Recent Trends in Applied Science and Technology (ICRTAST-2019)" (*பயனுறு அறிவியல் மற்றும் தொழில்நுட்பத்தின் அண்மைப் போக்கு குறித்த மூன்றாவது பன்னாட்டுக் கருத்தரங்கு*) in Tamil language at SSN Campus.

On 23 September, 2019, a total of 100 students, faculty and staff from various departments of SSN, were taken for a visit to Satish Dhawan Space Centre, Sriharikota.

SSN MATH CLUB organized a "STATE LEVEL MATHEMATICAL QUIZ 2019", under the guidance of Dr. P. Venugopal, on 26 September, 2019.

## Info to Alumni- Department Update

**External Recognition:**

Dr. D. Ananthapadmanaban

Dr. D. Ananthapadmanaban is on the Advisory Committee of the 2nd International Conference on Innovative and Advanced Multidisciplinary Research ICIAMR 2019 to be held in October, 2019 at Singapore [03.09.2019]

Dr. S. Rajkumar

Dr. S. Rajkumar, Associate Professor, delivered a guest lecture on Recent Trends in Automotive Engines under the banner of Institution of Engineers India (IEI) at Agni College of Technology, Chennai [07.09.2019]

Dr. L. Poovazhagan

Dr. L. Poovazhagan, Associate Professor, delivered a guest lecture at IFET College of Engineering, Villupuram for Mechanical Engineering students on the topic of "Recent technologies in manufacturing processes" [07.09.2019]

Dr. M S Alphin

Dr. M S Alphin, Associate Professor, delivered an invited lecture on "Dynamic Analysis" in Arupadai Veedu Institute of Technology, Paiyanoor, Kancheepuram District [12.09.2019]

Dr. N. Nallusamy, Professor, has delivered an invited lecture on "Heat transfer enhancement studies on a latent heat storage (LHS) system integrated with solar water heater" in the 3rd International Conference on Recent Trends in Applied Science and Technology (ICRTAST-2019), organized by SSN Research Centre, SSN Institutions, Chennai - 603 110 [21.09.2019]

Dr. N. Nallusamy

Dr. K. Jayakumar, Associate Professor reviewed a paper titled "Nanocomposite of PLLA nanofiber and hexadecyl trimethylammonium chloride-modified montmorillonite clay: Fabrication and morphology" for the Journal of Industrial Textiles (SAGE Publications) [25.09.2019]

Dr. K. Jayakumar

Prof. V. E. Annamalai, was invited by Confederation of Indian Industry's TQM Forum to talk on "TRIZ for Problem Solving". This session was attended by twenty delegates from various industries. [27.09.2019]

Dr.A.K.Lakshminarayanan writes…

"I am happy to inform you that I have been appointed as a section editor for the "Welding Technology Review", a journal with 90 years of legacy. *Welding Technology Review*s is an open access, peer-reviewed journal published monthly by the Society of Polish Mechanical Engineers and Technicians since 1928." http://www.pspaw.pl/index.php/pspaw

Dr A K Lakshminarayanan

**Project News:**

Dr. Satheesh Kumar Gopal, Dr. K S Jayakumar, Dr. K L Harikrishna and Dr. N P Rajesh, submitted a proposal to DST through the STI Hub scheme titled "Sustainable Skill Development Centre – A Knowledge Route" for an amount of Rs. 49,45,600/- [20.09.2019]

Dr. K L Harikrishna

Dr. Satheesh Kumar Gopal

Dr. K S Jayakumar

**Research Activity:**

Dr. B. Anand Ronald, Associate Professor, Paper titled "Preliminary studies on Sustainable Joining of Polypropylene" was presented in the First International Conference on Recent Trends in "Clean Technologies for Sustainable Environment (CTSE-2019),organised by Dept. of Chemical Engineering, SSNCE. Co-authors: Harish Kumar.A, Anupa Sri. R [27.09.2019]

Dr. B. Anand Ronald

M. Manojkumar, third year student, got the best presentation award in International Conference on 'Recent trends in clean technologies for sustainable environment' conducted by SSNCE, chemical department. The paper was co-authored by Dr.K.Rajkumar. This is an outcome of internal student fund project.

Dr. K Rajkumar

**Industrial Visit:**

Dr. A.S. Ramana and Dr. K.L Hari Krishna, Associate Professors, accompanied III Year B.E. Mechanical Engineering students for Industrial visit to Tube Products of India, Avadi [19.09.2019]

Dr. A.S. Ramana

Dr. B. Anand Ronald, organized a visit for M.E (Manufacturing) Students to Optomechatronics Lab, Engg. Design Department, IIT Madras [20.09.2019]

Dr. M S Alphin and Dr K S Jayakumar, Associate Professors, accompanied III year B.E Mechanical Engineering students for an Industrial Visit to Dandeli and Goa [20.09.2019]

**Programs and Workshops Attended:**

B. Jayakishan, Assistant Professor, attended the Annual General Meeting (AGM) of SAE Southern section at IITM Research Park [20.09.2019]

Mr. B. Jayakishan

Dr.M.Nalla Mohamed attended three day workshop on "Application of solid works on product design and development" at Mepco schlenk engineering college. [27.09.2019-29.09.2019]

Dr M Nalla Mohamed

**Department Activity:**

Dr. N. Lakshmi Narasimhan, Associate Professor, arranged through CDC, campus placement of “Pickyourtrail” for all the departments. He made initial efforts to invite the company for campus placement and referred to CDC for further follow-ups and organizing the placement process officially [19.09.2019]

Dr. N. Lakshmi Narasimhan

Dr. N. Lakshmi Narasimhan, Associate Professor, arranged a six-month long internship for two PG Students (M.E. Manufacturing-1 and M.E. Energy Engineering-1) at Ford Chennai. Expected to commence from Dec 2019 [25.09.2019]

**DC Meeting:**

Dr. M Dhananchezian, Associate Professor, conducted the second DC meeting for his PhD scholar Mr. P. Kaliyappan [24.09.2019].

Dr M Dhananchezian

**Other News:**

Dr S Suresh Kumar

Dr. M S Alphin, Associate Professor, received "Best teacher Award- First", for ME Engg. in the Teachers day function at Main Auditorium, Sri Sivasubramaniya Nadar College of Engineering. Dr S Suresh Kumar was awarded the second prize. [05.09.2019]

**Alumni Activity:**

We had Adithyan Karunakaran from the 2015 batch conduct an interactive session with students from all departments, on September 17, 2019 at the Central Seminar Hall. The session was on Pursuing a Business degree abroad with specific focus on Masters in Engineering Management.

**Student Activity:**

1. The following students served their positions for various technical events for INVENTE conducted by the department [14.09.2019]:

| Name | Event | Designation |
|---|---|---|
| Anirudh PB | Treasure Hunt | Event Head |
| Raghul Kanna S | Mystery Event | Event Head |
| Vijay D | Mechathlon | Event Head |
| M Arun Prakash | Bottle rocketrix | Event Head |
| A R Bhuvvan Teja | Mystery Event | Event Head |
| Amutha Geethan T | Blitz GP | Event Head |
| Gnana Selvan P | Nitro GP | Event Head |
| Kaushik | Project Exhibition | Event Head |
| Balaji S | Robo Wars | Event Head |
| Harish A | Auto Quiz | Event Head |
| H Sirajudeen | Nitro GP | Event Manager |
| Laxmanan CJ | Mystery Event | Event Manager |
| S Deepak | Blitz GP | Event Manager |
| Marimurugan V | INVENTE | Event Coordinator |
| Jayasundaram K | INVENTE | Event Coordinator |
| Moulishwar RR | INVENTE | Event Coordinator |
| Naveen V | INVENTE | Event Coordinator |
| Hariharan S | Crowd Committee | Head |
| Aneesh Aravind R | Nitro GP | Deputy Head |
| P. Mahendran | Paper Presentation | Deputy Head |
| Aditya Bucha | Robo Wars | Deputy Head |
| Sarvesh S V | Blitz GP | Deputy Head |
| Sruthi Mahalakshmi | Mechathlon | Deputy Head |
| Shailesh kumar | Robo Wars | Deputy Head |
| Shri Harri V | Project Exhibition | Deputy Head |
| M Vignesh | Mystery Event | Deputy Head |
| Harish Kumar A | Blitz GP | Volunteer |
| Arun T | Bottle rocketrix | Volunteer |
| Pranaav Sankar S | Auto Quiz | Volunteer |
| Balaji K | Blitz GP | Volunteer |
| Niranj Kumar V | Auto Quiz | Volunteer |
| Nazir Hussain A | | Volunteer |
| K S Ranjith | Nitro GP | Volunteer |
| Kaushik Kiran S | Paper Presentation | Volunteer |

| | | |
|---|---|---|
| Kumaran G | Treasure Hunt | Volunteer |
| Iniyan V | Nitro GP | Volunteer |
| Jitendra Kumar | Mechathlon | Volunteer |
| Akash R | Paper Presentation | Volunteer |
| S.Survesh | Treasure Hunt | Volunteer |
| V Vishnu Srinivasa Prasad | Treasure Hunt, Robo Wars | Volunteer |
| M. Sriram | Paper Presentation | Volunteer |
| Ajay Kanna AK | Nitro GP | Volunteer |

2. Pranesh Rajasekaran, participated in the blood donation camp conducted by YRC [26.09.2019]

3. Plakeel Kurian John, won the 3rd place in the western music event conducted at Stanley Euphoria 2019 [26.09.2019]

4. K.Venkatesan, Visited the Satish Dhawan Space Centre (SDSC) [23.09.2019]

5. Saravanan T, completed an online course in NPTEL [29.09.2019]

6. Venkatram R, completed an online course in NPTEL [29.09.2019]

7. S.Muhilan, participated in Football Tiki Taka event conducted as part of Invente [13.09.2019]

8. Pranesh Rajasekaran, participated in the blood donation camp conducted by YRC [04.09.2019]

9. Aravind S, organized a maths quiz in our college [26.09.2019]

10. Manojkumar M, won the second prize in the event "Tech Conversation" in the Karuvingyan symposium conducted by St Joseph college of engineering. First round was adzap and second round was a minute talk on a random topic they give. [14.09.2019]

11. Shibin P,final year, was a part of crowd management for the Youth and Truth event and was part of the organising committee of SSN MUN 2019 [03.09.2019]

12. Sam Sherin Raj.S,2nd year, won the 3rd place at the 160cc BFKCT S3 gokart virtual [05.08.2019]

13. Aravind S,3rd year, organized a maths quiz in our college [26.09.2019]

14. S.Abdul Rahman Basheer, final year, organised and donated blood in YRC blood donation camp [04.09.2019]

Faculty Write Up

## SAE AGM Meeting

Mr B Jayakishan

Mr B Jayakishan, Asst. Prof/Mech, writes…

The Society of Automobile Engineering – India southern section conducts annual general meetings regularly. This year the meeting was conducted at *IITM* Research park. Lot of eminent personalities from industries and academics graced the meeting. The meeting started with Dr. Bala Bharadwaj, President of *SAE-ISS* welcoming everyone. He thanked everyone for a successful year and wished luck to new panel members. Mrs. Rashmi Urdhwareshe, Sr. Vice President then gave a brief talk on the events that took place last year. The main highlight of the year was FISITA (*Fédération Internationale des Sociétés d'Ingénieurs des Techniques de l'Automobile*) World Automotive Congress and Mobility Summit that happened on October 2-5, 2018 at Chennai trade center for the first time in India. The theme for this conference was disruptive technologies for affordable and sustainable mobility. Lot of breakthrough technologies for vehicle electrification and ADAS validation were revealed by component majors like Bosch, AVL and Continental.


Mr. I. V. Rao, Vice President spoke about the various programs going on as part of yearly activities. Some of that included Webinars, Faculty development programs in all the three fields and a special training program for school students to get acquainted with automotive science known as 'A world in motion'. He also informed that their premier flagship event BAJA is going to take place soon for the first time in the southern section. Dr. Bala informed that the SAE events greatly benefitted the students as John Deere and Cummins has hired 22 students as Interns and placed in many functions in their organization. The meeting ended with a networking dinner.

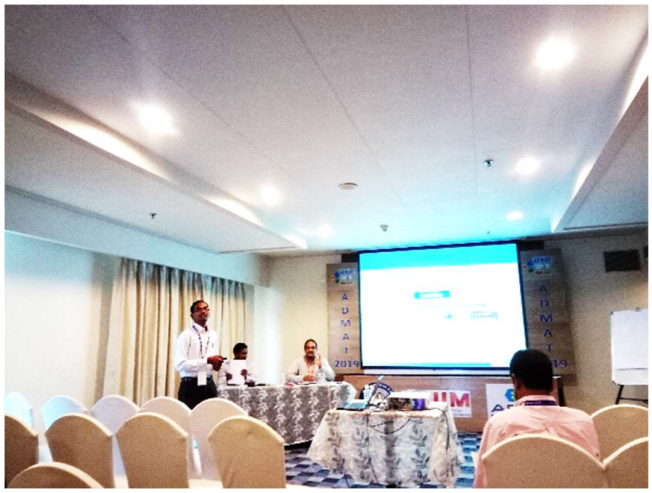
Faculty Write Up

Dr S Suresh Kumar

**International Conference presentation by faculty members: ADMAT - 2019**

Dr S Suresh Kumar, Assoc. Prof/Mech, writes…

**Dr. S. Suresh Kumar** and **Dr. R. Damodaram** have presented their research work in an international conference titled "**Advanced Materials and processes for Defence Applications- ADMAT 2019**". The conference was organized by **Defence Metallurgical Research Laboratory (DMRL)** which was established at Hyderabad in 1963 to produce complex metals and materials needed by the Indian Defence Industry. Over the years, the laboratory has acquired a special status as a premier centre for R&D in metals, alloys, ceramics and composites. Since its inception, the laboratory has developed and established a number of frontline technologies in the area of metallurgy and materials science. An infrastructure of advanced experimental facilities has evolved over decades. The developments at DMRL has led to the creation of new technology and production centers in the country.



**Presentation by Dr. R.Damodaram**

The conference was held at Hyderabad (Hotel Courtyard Marriot) on 23rd - 25th September 2019. The titles of the research presentations of the faculties are

| | |
|---|---|
| Dr. S. Suresh Kumar | Numerical and Experimental Ballistic Performance of Aluminium Metal Foam Targets |
| Dr. R. Damodaram | Characteristics of Friction Surfaced Alloy 718 Coatings |

Some of the important **plenary lectures** delivered by various experts are

| | | |
|---|---|---|
| | **24-09-2019 (Monday)** | |
| 1 | **J W Jones, Univ. of Michigan** | From Defects to Microstructure Neighborhoods: A Review of Ultrasonic Fatigue Techniques in Assessing Very High Cycle Fatigue in Structural Alloys |
| 2 | **Dipankar Banerjee, IISc** | Aerospace Materials in India: Past, Present and Future |
| 3 | **Kevin Hemker, Johns Hopkins Univ** | Advanced Micro-scale Mechanical Testing at Length Scales Relevant to Integrated Computational Materials Science & Engineering (ICMSE) |
| 4 | **Kamanio Chattopadhyay, IISc** | Can Cobalt Base Super alloys Compete with Nickel Base Super alloys? Developing a New Class of Alloys to Address the Challenge |
| | **24-09-2019 (Tuesday)** | |
| 1 | **Jean Loup Strudel, Paris Mines-Tech** | Creep Mechanisms in Advanced Super alloys |
| 2 | **Somnath Ghosh, Johns Hopkins Univ** | Parametrically Homogenized Constitutive Models (PHCMs) for Predicting Fatigue Failure in Metallic Materials. Coupling Multi-Scale Modeling with Machine Learning and Uncertainty Quantification. |
| | **25-09-2019 (Wednesday)** | |
| 1 | **T S Sudarshan, MATMOD** | Materials Solutions for Warfighter Survivability |
| 2 | **George F Vander Voort, STRUERS** | Determination of the Degree of Thermal Exposure to the Lower Head of the Three-Mile Island Unit 2 Nuclear Reactor Using Metallography |

Faculty Write Up

Dr. N. Lakshmi Narasimhan

**New Policies**

Dr N Lakshmi Narasimhan, Assoc. Prof/Mech, writes

DTS has issued a draft of SSR (Scientific Social Responsibility) Policy (6 pages only) to be deployed by DST soon. They welcome suggestions from the public on the draft proposal till Oct 8, 2019.

Please refer link:
https://dst.gov.in/sites/default/files/Final%20SSR%20Policy%20Draft_2019.09.09_0.pdf

AICTE has issued a policy for startup support by Higher Education Institutes. It urges each Institution to set aside 1% of its budget for Startup support. Details and 40 page policy document can be seen at

https://www.aicte-india.org/sites/default/files/AICTE%20Brochure_10.09.19.PDF

Placement Write Up

**Caterpillar Inc.**

Caterpillar Inc, the world's largest construction equipment manufacturer, visited the SSN Campus looking to hire students for the role of Associate Engineer. Akhil Kuriakose, Balakrishnan, Divakar and Sivanesan from the Mechanical Department got placed in Caterpillar. The recruitment process is described in detail below.

Round 1: Online Screening Test (AMCAT)
The test had four sections, namely Verbal Competency, Analytical Reasoning, Quantitative Aptitude and Domain-specific module (Mechanical Engineering). The test was adaptive in nature.

Balakrishnan writes...

"Keep revising these subjects regularly. The reason I am saying this is that you may not get time to study everything at the end and also it is quite possible that you might have some other exam or interview the previous day too and you may be tired a day before the test or interview to revise everything in a single night."

Round 2: Group Discussion

A Group Discussion was conducted. A group consisted of about 10 members and a topic was given - either by the moderator or chosen by the group. Selection was based on content, how they talked and the ability to be a team player.

Sivanesan writes…

"While talking ensure that you're within the topic given. Don't be afraid of grammatical mistakes. Speak confidently and boldly. They wouldn't expect good fluency and rich vocabulary from you. They just want to check how confident you are. I would recommend watching the news (whatever language it maybe all you need is for content to be delivered) and reading articles from Google news feed."

Round 3: Technical-cum-HR Interview

4 students from each of the 4 GD groups were shortlisted for interviews. Some students (who were not shortlisted initially) were also recalled for interview, based on GD score. For some students, 2 separate interviews were conducted and for some others it was just a single one. Roughly, it lasted for around 20-30 minutes, depending on the panel.

Akhil C Kuriakose writes…

"Out of the 16-20 students who were interviewed, 4 of us were selected for full-time roles and 1 for an internship role. Overall, the process was comfortable, as the interviewers were friendly. Display the right attitude and aptitude for the job role, and you are bound to succeed. All the best!"

Divakar writes…

"A lot of real-life office scenarios were presented and personality evaluation was done by the panel. This process was particularly long for me, clocking in about, roughly, 50 mins. All niceties were exchanged before and after the interviews. The interviewers were friendly and amicable and made me feel welcome."

## Placement Write Up

**ThoroGood**

Mayanck Bihani, Fourth year student, writes…

I, Mayanck Bihani, have the good opportunity of joining Thorogood Associates, a super-dream company, as a Business Intelligence and Analytics Consultant. Their interview process was very unique and curious; and since not many of us are familiar with it, I would love to share my experience with you, in the hope that it might help my peers in the future.

The placement drive was conducted in three main stages.

**Stage 1** was an online aptitude test, where they examined our data interpretation and logical thinking skills. Most of the questions were based on interpreting data from bar graphs and establishing the chain of familial hierarchy based on the information given. Time was of the essence.

**Stage 2** was a face to face interview with a HR representative from the company. It was basically a character fitness test, where an applicant is expected to display virtues of open mindedness and a capacity to learn something new. It was an interactive session where questions were asked from the resume. The candidates who qualified this interview were shortlisted to attend a full day assessment in Thorogood's office, Bangalore. The travel and accommodation was arranged promptly by the company. This assessment consisted of four rounds:

1. **CASE STUDY ROUND**
   We were given a case study booklet, and were expected to come up and present an innovative solution to the problem presented. No technical or prerequisite knowledge was required to solve the question. The main objective of this round was to determine the candidate's ability to think on their feet, and their ability to use their logical thinking skills to arrive at a solution. Our presentation skills were also tested, followed by a question answer round.

2. **FACT FINDING ROUND**
   This round was conducted simultaneously along with the previous round. In this stage, the interviewers presented us with a simple statement which curtailed in it a task that we were to accomplish. However, no other information about the job was given, and all the facts and constraints which we realised to be essential in solving the task, were to be asked as exact, precise questions to the interviewer, to which they would give us definite replies. Based on the information received, we were supposed to give our recommendation. The main objective of this round was again, to assess our logical reasoning abilities, and to withstand pressure even in the face of adversity.

3. **GROUP ACTIVITY**
   This round required the participation of the group as a whole. It was their version of a group discussion, where-in we were expected to come up with a working prototype of an airport, and load it up with innovative technologies and functionalities. Every member was expected to contribute at least one idea for the purpose, and in the end, the group as a whole decided whose idea was the best. Even while we were discussing, the interviewers kept taking notes on the contribution and behaviour of each individual person.

4. **HR INTERVIEW**
   The last round of the day was a simple HR interview, similar to the one conducted in our college.

All the rounds, barring round 3, were subject to individual evaluation. The whole process lasted for about 9 hours, and required us to be vigilant and sharp throughout. Nevertheless, all the facilitators present there were very friendly, and even though the challenges were stimulating, they encouraged all along the way. The experience was truly one of a kind

## Placement Write Up

**Keyence India**

Balakumar SS and Chidambaram A from the final year of Mechanical department got placed in Keyence India. They've shared their experience below:

1. Online Aptitude Test (20 questions - 30mins)

2. 30 seconds Interview

3. Group Discussion

4. Technical Interview

5. Final HR interview

Balakumar

In 30 Seconds interview they asked about the skills needed for Sales Engineer

It was then followed by Group Discussion. There was no preparation time, asked us to start as soon as the topic was given. The total time given was 7mins and no notebooks or rough sheets.

In the Technical Interview, they asked me to convince a person to learn an additional Language apart from his native language. If you get this type of question then ask the interviewer about where the person (whom you are convincing) is working? what kind of work he is doing? what language he knows? where he is from? etc., Then, Choose any language which he doesn't know and tell all the possible advantages that he can have on learning this language, and tell how it will make his carrer better, tell him about future opportunities that he might have after learning the language.

Chidambaram

In Final HR Interview, most of the questions will come from your Resume. So be careful about your resume. Have the control of the interview on your hand because the next question will be based on your answer to the previous one. Do visit their website and have a glance about the company and about their products before the interview. Be confident and be Bold on your Views.

All the Best!

Placement Write Up

**Pickyourtrail**

Pick Your Trail, a travel and tourism-based company, visited the SSN campus looking to hire students for the post of Management Trainee. Sriram S, Nareshkrishna A, Abhinauv S and Harshvardhan from our department got placed in this company. The recruitment process is discussed in detail below.

**Round 1: Group Discussion (GD)**

In this round, the students were divided as groups of 10 and the topics available for mostly related to current affairs. Their communication skills were of utmost importance and this round helped to build one's confidence level.

Sriram writes…
"The rules of GD were explained before starting, which gave a clarity of thought to all the students. They wanted the GD to be fast paced and 'like a Rapid-Fire round'. We had chosen our points with having the thought of simple language in mind so as to deliver the message powerfully. The two topics were 'IOS vs Android' and 'Girls vs Boys, who is more complicated? '. I started first for both the topics just to make sure that my point was heard and registered."

**Round 2: Aptitude Test**

The second round was a pen & paper aptitude test which consisted of questions from quantitative aptitude, logical reasoning and data interpretations. Apart from this, the students were asked to write an essay about why each person wanted to join them.

Harshvardhan writes…
" For the next block the 2nd round, an aptitude question with a writing question i.e " Why do you want to join Pickyourtrail?" was provided. There were 30 MCQ type questions which were very basic including Clock, mixture and data interpretation problems."

**Round 3: Personal Interview**

This interview was divided into both HR and Stress interview. A lot of students were allowed to participate in round 3.

Abhinauv writes…
"It was a bit intense & people who handled the pressure well were selected. The questions were based on the presentation which the HR had made in the morning session. Then we were asked to choose a role among sales, customer onboarding & customer happiness. I chose sales, so the interviewer gave me many tasks like selling products, listing out the various sales persons who had approached me, why I turned them down, what were the techniques they used, what I could do different from what they did, etc."

Nareshkrishna writes…
"They called the face to face interview as a 'stress interview'. Basically, they were seeking for the right attitude towards their work environment. Fair communication skill and the expected attitude fetched me the job."

Student Write Up

**BEHOLD, THE WAY TO THE STARS**

Akash S, Second year student/Mech, writes…

The pride of ISRO, the Satish Dhawan Space Centre at Sriharikota is a place to behold. Located a few hours to the north of Chennai and along the coast, the 45-thousand-acre landmark is home to something much bigger than its size. It proudly houses two launch pads which have carried out all of ISROs missions for the past twenty years.

On the 23rd of September, 2019, students of SSN College of Engineering got an opportunity to visit this pinnacle of science. The trip lasted but a day, but the memories last a lifetime. The experience was a huge leap for all those students fortunate enough to go. Because it showed them how big the world really was and what the word “World Class Facilities” meant.

The day started at 6 am when two SSN buses full of students left from the college campus. The four-hour drive was scenarios and pristine. The 10 am stop at Sriharikota was soon followed by rigorous and repeated rounds of checking. The final checking post was at a common library where all electronics and other appliances were left behind. This was where they left the old outside world behind and progressed to the new world.

The first stop was the Mission Control Centre which supervises all launches. There was a video played, explaining the integral function of the Centre in the launch of the rocket. They then wrongly believed that that was as close to the rocket as they were going to get. But so wrong they were. Because the next stop was the Launch Pad.

The Second Launch Pad was the second stop. This is a relatively newly constructed Launch Pad that can be used for multiple type of launch vehicles, be it PSLV or GSLV. The mechanism of the Launch and loading of the rocket onto the launching platform were explained in detail here.

The third stop was the “Golden Launch Pad” or the First Launch Pad. It has been dubbed as such due to its history of successful launches. A slight let down; the students weren’t let too close as it was closed for renovation then.

The fourth stop was at the ISRO's Telemetry, Tracking & Command Network Centre (ISTRAC). This was where the students learnt of the tracking of the rocket and how the signal is gained by the next Radar station in the network before the current one is lost.

The fifth and final stop was the SDSC Museum. This was simply an exhibition of all its past, present and plans for the future. The day concluded successfully with the four-hour drive back to the college. We thank our Management for this esteemed opportunity.

Student Write Up

**Industrial Visit to TI, Avadi**

Raghav Arvind, Third Year/Mech, writes…

Third Year students accompanied by Dr. K. L. Harikrishna & Dr. A S. Ramana visited TI, Avadi on 19th September 2019. Dr. Suresh, Business Head, TI briefed visitors about Murugappa group about different processes of manufacturing the Tubes products and its different applications in shock absorber tube in two wheelers, propeller shafts in aircrafts etc. Visitors were divided into 3 groups each comprising of 20 students. Each group was guided by a technical head.

Visitors were shown Coil Manufacturing Unit where coils of required thickness are prepared involving different operations such as mixing coil with HCl to remove the rust, slitting the coils into strips and reducing the coil thickness by different hi-mill rollers.

Further we visited Assembling Unit where coils are finally converted into tubes of required specifications after various operations. These operations involve welding (electric resistance welding) the coil to give it tube shape, then removing the internal and external burs and then heat treated(annealed) for the equitable distribution of hardness in the tube which is very necessary for drawing process. Subsequently tubes are cold drawn using plug and die engagement to give it required dimensions. While drawing, tubes are oil or soap soaked as to avoid friction and to increase tool life. Tubes are passed through rollers to remove bending effect and are quality checked.

Finally, in Inspection and Packaging Unit, the quality check is done through various ways such as physical check, eddy current testing and ultrasonic testing. Then tubes are packed and are ready for the market delivery.

We are thankful to TI, Avadi for permitting us to visit the industry. It was a useful learning experience to all of us. Such visits in future will make us aware of the industrial processes, market demands and trends. More details about TI is available on http://www.tiindia.com

Student Write Up

**Visit to IIT Madras - M.E (Manuf.) students**

Aneesh Kumaar, 3rd Sem. M.E (Manuf), writes…

It gives me immense pleasure to convey my views on industrial visit to IIT-Madras (Engineering design department) on 20/09/2019. Firstly, I would like to thank Prof.Dr. Anand Ronald (SSN College of Engineering) for arranging this visit and Prof.Dr. Nilesh J Vasa (Engineering Design Department - IIT MADRAS) for devoting his time during the entire day of the industrial visit in spite of his tight schedule. The visit started with an introduction video about the laser and its types, behavior and application etc. This video gave us a brief knowledge about the laser and made us understand the fundamental concepts of it. Followed by this, Prof.Dr. Nilesh J Vasa gave us a presentation on his research areas related to laser machining. He explained the process of photolithography with a neat sketch in a simple way. He was very friendly and at the end of the seminar he answered all the doubts with patience and kindness. He also provided us snacks and tea during the seminar.

Later professor took us to his lab i.e. Opto-Mechatronics Laboratory, where he engaged us with his PhD scholars and we had a hands-on experience on Micro-scribing of Cu thin films using short pulse laser. It gave us a brief knowledge on how laser is magnified to scribe Cu thin films and how laser is produced using Nd-Yag laser. We were also given knowledge on how thin films such as SiC are deposited by using pulsed laser deposition method. I would like to thank Mr. Sooraj and Mrs. Esther (PhD Scholars) for spending their time in explaining the processes and answering our queries. After the visit to Opto-Mechatronics laboratory Prof.Dr. Nilesh J Vasa

also gave us the opportunity to visit Additive manufacturing laboratory. We were exposed to Modern 3D printers its functions and working. We also saw the printer printing 3D Models by the process of extrusion of polymers through nozzle by printing the model layer by layer.

*'Education is not the filling of a pot but the lighting of a fire.' –W.B. Yeats.* There go the words, as said by W.B. Yeats, Prof.Dr. Nilesh J Vasa has inspired us in many ways. The way he encouraged and motivated to reach great heights in the field of research, I would strongly say that he has lightened the fire in each of us.

Student Write Up

Shruthi Sundar, Final year, EEE writes…

**SSN MUN 2019**


From 30 August to 1 September 2019, SSN hosted the sixth edition of the much-awaited SSN Model United Nations Conference. The objectives of this annual competition are to inspire young adults to develop an interest in world affairs, polish their public-speaking skills, and demonstrate exceptional professionalism and diplomacy while doing so. The 2019 edition of SSN MUN earned the accreditation of the United Nations Information Centre for India and Bhutan. Further, the event was graced by the presence of Dr. R. Kannan IAS (Retd), Former Additional Chief Secretary of Government of Tamil Nadu.

SSN MUN's reputation for quality debate, apart from a remarkable publicity campaign, encouraged 300 delegates to participate. The five committees simulated during the conference were: UN General Assembly: DISEC, UN General Assembly: ECOFIN, UN Security Council, UN Human Rights Council, and the International Press. Staying true to SSN MUN's motto, "Diplomacy, Deliberation, Discussion", each committee had fierce competition and fruitful dialogue, making the conference a phenomenal success to be remembered for the years to come.

Mech Marvel - 58

**Lightweight Smart Electric Scooter**

Gogoro from Taiwan launched a new addition to its battery-swapping electric scooters – the Viva Smartscooter. The Viva Smartscooter's body is fashioned from solid-core polypropylene that's resistant to scratches and can be recycled. The ride comes in five colour combinations, and tips the scales at 80 kg (176 lb) including the battery unit. The e-scooter rides on 10-inch wheels, with the rear one home to a low maintenance, integrated hub motor for a top speed of 50 km/h (31 mph). There are dual hydraulic disk brakes, LED head, tail and turn lights, and its 21.6 litres of storage should be enough to stow away a helmet with room to spare. Seat height is reported to be 640 mm (25 in).

Being designed for short hops around the city, this model has a single battery for a range per charge of around 85 km (53 mi). In Taiwan, Gogoro has installed more than 1,400 GoStations, where spent batteries can be swapped out for fresh ones in seconds. Gogoro rolled into Europe, and the Viva is being made available to global markets, so the company's Network of battery swapping stations could well follow.

The Viva comes with an iQ Smart Keycard with NFC for tap to unlock and start and, with the help of a connected smartphone, theft prevention measures such as facial recognition, fingerprint identification and security passcode can be enabled to make your ride a whole lot more difficult to steal. The companion app will also find the nearest GoStation, if applicable, and check the health of your machine.

The Via Smartscooter is due to roll in Taiwan from next month, ahead of global availability starting in 2020

Source:

https://newatlas.com/urban-transport/gogoro-viva-smartscooter/

Corporate Story 58

MSME FOCUS

## PURE PETROCHEM PRIVATE LIMITED

Pure Petrochem India Private Ltd.,is an integrated lubricants manufacturing company covering the manufacturing of all types of lubricants and greases. The company started manufacturing greases and lubricants to meet all requisite quality norms and standards from 1991.They have a fully equipped laboratory for lubricants and grease testing in their new plant. They are opening up a R&D division for development of new products and value addition to existing ones. Their laboratories have most modem testing equipment like ICP, Gas Chromatograph, Salt spray corrosion bath for testing rust preventives and a four ball EP testing machine. They are also planning to set up a commercial testing laboratory to cater to a wide spectrum of industries and specifically they will be undertaking condition monitoring of automotive, industrial and specialty lubricants. They have been long time suppliers of companies like Indian Oil Corporation and HPCL.

The company started operation in their own factory in Kinfra Park, Thumba Trivandrum, about, 45 KMs from the city since 1991 and incorporated in 2003. In order to enlarge and widen the operation and cater to the needs of many of customers the company has acquired their own land and constructed their new plant near Chengalpet, a suburb of Chennai city. The company's first unit in Trivandrum is in full production and the new plant near Chennai has started production on 24th February 2014.

From their website…

“Our industrial company has been fulfilling public projects for decades, since we meet all governmental criteria and standards of excellence in the area. We use engineering and manufacturing technology to make production faster, simpler and more efficient. We manage, operate, and maintain complex operation systems. We offer domestic and international testing and certification services for industrial facilities and equipment. The need for quality, safety, and reliability are paramount for us.”

To know more contact:
Email:contact@purepetro.com
Website:http://www.purepetrochem.com/contact.html

## Amazing Innovation- 133

**Mobile Heating pad that can be used in many ways**


ColdProof is developed by a start-up in Salt Lake City, Utah, ColdProof is a lightweight and portable heating pad that gives sustained warmth and comfort for all outdoor activities. NASA technology plays a large part in this amazing product that is designed to steadily reach 113 degrees Fahrenheit, which helps you stay warmer, longer.

ColdProof has an insulated interior and delivers unidirectional heat helps that saves energy and puts heat where you want it. The 11”x9” design is lightweight, making ColdProof easy to carry. You can store ColdProof in a backpack, laptop bag or even purse. It is self-regulated, which ensures that consumers will stay perfectly warm and prevent overheating. This versatile design is flexible so that you can place it on a seat, behind your back or wear it inside a jacket – it can be used for literally any activity.

Source:
https//newatlas.com/sponsored-content/coldproof-portable-heating-pad-warm/

## Amazing Innovation- 134

**Driverless trucks for mining**

The AXL is a concept truck developed by Scania, says it doesn't rely on any technologies that aren't available today. It's powered by biofuel, and uses cameras, radars, laser beams, GPS and LiDAR to sense the world around it. There's a white light bar wrapped around the vehicle that shows where the truck has detected people or objects to avoid, giving people some degree of comfort that the machine has seen them and won't be rolling over the top of them.


It also makes a pretty fundamental change to the nature of the vehicle. Without the cab, it's clear how much extra space there is for cargo. It's also clearly going to be cheaper than having a self-driving truck with a just-in-case cabin, both because you lose all the fiddly bits required to support humans and because you won't need to prove you can crash it without hurting the people inside.

Source:
https://newatlas.com/automotive/scania-axl-cabless-truck-driverless/

## Amazing Innovation- 135

**Bioreactor that can soak up carbon dioxide more effectively than trees**

US company Hypergiant Industries has packaged the tech up into a box-shaped machine that can soak up as much carbon from the atmosphere as an acre of trees. Through the process of photosynthesis, the aquatic plant algae soaks up carbon dioxide, water and sunlight to produce energy. Naturally, the plant will use this energy to multiply and grow, but scientists have been experimenting with ways to capture it and convert it into biofuels instead. The newly announced Eos Bioreactor might look like someone left a giant Xbox in the garden, but Hypergiant Industries isn't looking to play games here. The reactor measures 3 x 3 x 7 ft (90 x 90 x 210 cm) and is designed to be installed in urban environments where it captures and sequesters carbon from the atmosphere, and produces clean bio-fuels that could be used to further reduce a building's carbon footprint. The reactor uses a specific strain of algae called chlorella vulgaris, which is claimed to soak up much more CO2 than any other plant. The algae live inside a tube system and water tank within the device, which is pumped full of air and exposed to artificial light, giving the plant the food, it needs to thrive and produce biofuels for harvesting.

Hypergiant Industries claims that the harvesting technology packed into its Eos Bioreactor is so efficient it is 400 times more effective at capturing carbon than trees taking up the same footprint. It attributes this to its machine learning software that oversees the whole process, managing light, temperatures, and pH levels for maximum output.

Source:
https://newatlas.com/environment/algae-fueled-bioreactor-carbon-sequestration/

## Amazing Innovation- 136

**Aircraft refueling drone**

An advanced unmanned aircraft designed to refuel the US Navy's fighter jets in mid-air has taken to the skies for the first time. Boeing unleashed an early version of its MQ-25 autonomous drone at an airfield in St Louis for a short test jaunt to demonstrate some basic functions, as the aerospace company prepares to deliver the military its first prototypes in the next couple of years. Boeing's MQ-25 Stingray program has been in development, in various forms, since 2006. Last September the company beat out competing proposals from Lockheed Martin, Northrop Grumman and General Atomics Aeronautical Systems to earn an US$805-million contract with the US Navy. The military hopes to use it as an airborne refuelling platform to extend the range of its F/A-18 Super Hornet, EA-18G Growler, and F-35C Lightning II aircraft. Operating under the name T1, the prototype MQ-25 performed an autonomous flight over the course of two hours at MidAmerica St. Louis Airport on September 19, with test pilots controlling it as needed from a ground station. The aircraft showed its taxiing and take-off abilities, and was then made to follow a pre-determined route to demonstrate basic flight functions.

Source: https://newatlas.com/military/boeings-aircraft-refueling-drone-first-flight/

## Alumni Update 1

Sharan Srinivasan

Vishnu Varatharajan

Sharan Srinivasan, final year, writes as a part of the Alumni Documentation series…

I would like to introduce to all of you Vishnu Varatharajan from the 2011-2015 batch. Vishnu is currently looking to pursue a PhD in Gandhian studies.

Vishnu's path so far has been starkly different from the journey of a standard engineering graduate. Even during his days at SSN, he was sure that Engineering was not what excited him and began his stint at Vikatan as a student reporter and journalist. After serving as a freelance translator at People's Archive of Rural India for close to two years, he took a call to pursue MA Political Science at University of Madras.

Vishnu recently travelled to Berlin as a Visiting Scholar at Humboldt University for a period of 6 months and returned with a ton of new memories. In this documentation, he shares with us, his experiences over the years and how he took the road less trodden.

**Please do refer to your personal SSN mail IDs for the complete write up.**

## Alumni Update 2

Ankit Kumar

Ankit Kumar was a student of the graduating class of 2019 from the Mechanical Department of our college. Currently, he works as an Analyst-Engineer at Caterpillar Inc.

Ankit writes…

Dreams and Aspirations, the two word everyone has in mind at the start of career, especially during college time.

Hello SSNites, this is to share glance of my experience, opportunities and learnings I had to go through to achieve my dream. There are two phases which I am going to talk about here:

College Life:

It is indeed a blessing to study and be part of SSN Mechanical engineering Department. The reason being the versatility, faculty and staffs, freedom of choice and work. I have also joined the college with dreams and aspirations. I came to SSN as a lateral entry student, and my first phase of challenge was to cope-up my studies to become equivalent to regular students. It took long for me to properly settle and be comfortable. Next phase of challenge was to build the resume with good projects and activities in it. Third year, the most crucial year to build the base for having good career. During this year we run here and there to grasp and get every possible thing to build the base strong and to decorate our resume. Final year, The Show Time. This is the time where we need to showcase all our learnings and give proof of concept in one day. That one day is the day which makes the rest of our career. Prepare for that day from the beginning and be the best in it. There is huge luck factor which plays role during placements but most importantly your talent and skills matters.
Don't lose all your time running behind success, enjoy your college life and all ups and downs with joy. This time is never going to come back. Have a memorable college life.

Corporate Life:

This is one entirely different phase of life which is very true and practical. In college, we have assumptions, theories, explanation but in practical life these earlier defined theories don't really work. It is a dynamic world, every time we need to come up with new solutions by learning from it. Corporate life is something similar, Caterpillar is full of challenges and opportunities. Every day will have new challenge, new problems and new solutions. The only way to sustain and grow is to keep learning, improving skills, stretching boundaries and going out of comfort zone. Caterpillar is one of the best experiences I am having now, great place to work, learn and improve. The working environment is very free and comfortable. Every day at Caterpillar is a new day and new learning.
The following notes which helps to grow in real world:

1. Networking is very important inside an organisation. This helps to connect with right person at the right time for problems.

2. Never stop learning, keep learning keep improving and always think about WHAT NEXT? Always think for long term goal and make good strategy to achieve it. Plan day to day life and think on what exactly you want in future. Work hard, be determined and disciplined, and focus on your goals.

Trust yourself, remember that what lies behind you and what lies in front of you is nothing when compared to what lies within you. All the best!

And feel free to connect with me incase needed at ank98kumar@gmail.com

## Forthcoming events

Workshop/Seminar

**October 2019**

**Kind Attention-Research Scholars who would like to learn characterisation techniques**

- The Department of Physics, SSN college of Engineering in Association with Indian Association for Crystal growth & SAIF, IIT Madras organizes "National Workshop on Modern Spectroscopic Techniques (NWMST-2019)" during 24-25 October 2019. The NWMST-2019 is a national level workshop, which will mainly focus on the theory and applications of FT-NMR, FT-IR, FT-RAMAN, EPR, ICP-OES, UV- VISIBLE & Photoluminescence spectroscopy. Fee for Scholars Rs.1000.Interested Candidates can register through the link given below: https://docs.google.com/forms/d/1zRagruFtt3vIwTIragUBUWjdiauhccLNuaai190vg5A/edit

- VIT Chennai campus is organizing a **"ONE DAY WORKSHOP ON DRONE DESIGNING AND CUSTOMIZATION" on 07 October 2019.**

**November 2019**

- Indian Institute of Information Technology Design and Manufacturing(IIITDM), Kancheepuram, Chennai (under Ministry of HRD, Govt. of India) is organizing a AICTE sponsored short term course on " Internet of Things: Concepts and Implementation" 15th– 19th November, 2019 **Brochure** - **Registration link**

**December 2019**

- Indian Institute of Information Technology Design and Manufacturing(IIITDM), Kancheepuram,

Chennai (under Ministry of HRD, Govt. of India) is organizing a AICTE sponsored short term course on "Power Electronic converters and Controllers for EV and Smartgrid" 18th–22nd December, 2019
**Brochure** - **Registration link**

Conference

**October 2019**

- The Tamil Nadu Technology Development & Promotion Centre of CII organizing its 5th Edition - Conference on Automotive Design & Engineering on 4th October 2019 at Hotel Feathers, Chennai with the theme of "Technical Development & Trends in Automotive Design & Engineering"

- SRM Institute of Science and Technology (formerly known as "SRM University"), is organizing the 3rd International Conference on Advances in Mechanical Engineering during February 24-29, 2020. Registration Rs.6000 for students and Rs.9,000 for faculty. Abstract submission by October 15, 2019. Details at www.srmuniv.ac.in/icame-2020

- The Department of English, SSN College of Engineering, Chennai, to invite you to the Two-day International Conference on 'English Language Teaching: Trends and Innovations' on 13th & 14th December 2019. Submission of abstracts: 15 Oct 2019. Please visit our webpage for more details: http://www.ssn.edu.in/ssnelt2019/index.html

- The Mechanical Engineering Department of Chennai institute of Technology is organizing an International Conference on Recent Trends in Mechanical and Materials Engineering (ICRTMME 2019) during 12-13 December 2019. Abstract submission by Oct 15, 2019.

- Confederation of Indian Industry, Tamilnadu is organizing a Conference on EHS Excellence in the Era of Smart Manufacturing, on Friday, 18th October 2019, at Hotel Ramada Plaza, Guindy, Chennai.

- The Republic Polytechnic in Singapore is organizing the 6th International PBL Symposium 2020 (IPBLS2020) from 26-27 March 2020. The call for papers is open for contributions on research, development and practices relating to Problem-based Learning, Project-based Learning, and other active learning methodologies based on the Symposium theme. Send Abstracts by October 31, 2019. Details at https://www.rp.edu.sg/symposium/call-for-papers

**November 2019**

- The 6th International EcoSummit Congress - EcoSummit 2020 – Building a sustainable and desirable future: Adapting to a changing land and sea-scape , will take place at The Gold Coast Convention Centre, Gold Coast, Australia, from 21st – 25th June 2020. Abstract submission deadline: 15 November 2019

- The University of Cincinnati, College of Engineering and Applied Science, is hosting the 2020 ASME International Manufacturing Science and Engineering Conference (MSEC), during June 22 – 26, 2020, at Cincinnati, Ohio. As part of the conference, a Symposium on Internet and Digital Twins Technology for Smart Manufacturing is also planned. Authors are encouraged to submit an abstract and full manuscript for review by November 15, 2019 via the conference website.https://event.asme.org/MSEC/

- The Department of Mechanical Engineering of National Institute of Technology, Tiruchirappalli (NIT-T), will be organizing an International Mechanical Engineering Congress (IMEC) – 2019 during 29th Nov – 1st Dec 2019

**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 December2019. Complete details of the event at http://tribologyindia.org/.

- The Twelfth International Conference on Information, Process, and Knowledge Management, eKNOW 2020, is planned during March 22 -26, 2020, at Barcelona, Spain. This conference has a special track on KMI 4.0: Toward Industry 4.0 by Knowledge Management. Submit papers by Dec 3, 2019.
  Paper Submission URL:
  **https://www.iariasubmit.org/conferences/submit/newcontribution.php?event=eKNOW+2020+Special**

- The Institute for Sustainable and Environmental Chemistry, Leuphana University Lüneburg, Germany is organizing the fifth Green and Sustainable Chemistry Conference in Bonn, Germany, during May10-13, 2019. Submission open till Dec 4. Energy Conversion and Storage is a main theme.

- 64th Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM -2019) will be jointly organised by School of Mechanical Sciences and School of Basic Sciences (Mathematics), IIT Bhubaneswar during the period 9th-12th December, 2019.
  About ISTAM: https://istam.iitkgp.ac.in/#!/pages/home
  About IIT Bhubaneswar: http://www.iitbbs.ac.in/istam/

- 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 Mechanical Engineering Department of Syed Ammal Engineering College, Ramanathapuram, is hosting the " International Conference on NanoTechnology: Ideas, Innovation and Initiatives" (ICN2K19), during December 12 to 14, 2019. Details athttps://sites.google.com/view/icn2k19

- Sardar Vallabbhai National Institute of Technology (S.V.N.I.T.)Surat, Gujarat, is organizing the 5th International Conference on Industrial Engineering (ICIE 2019) during December 12-14, 2019. Details at http://icie2019.com

**January 2020**

- 9th International Conference on Fracture of Polymers, Composites and Adhesives
  6-10 September 2020 | Eurotel Victoria, Les Diablerets, Switzerland.
  Abstract Submission by 17th Jan 2020
  Details at https://www.elsevier.com/events/conferences/esistc4conference/about

**February 2020**

- The Institution of Engineers (India) and Jadavpur University will be jointly organising the International Conference on "Energy and Sustainable Development 2020" at Jadavpur University, Kolkata during February 14-15, 2020 as a part of Centenary Celebration of IEI.

**Electric Solar Vehicle Challenge** Challenges

- The Imperial Society of Innovative Engineers (ISIE) and Ministry of New And Renewable Energy have announced Electric Solar Vehicle Challenge ESVC. Details at https://www.worldsolarproject.com/

Research News from MSP

Dr Muthu Senthil Pandian

**1.Internships**

The three national Science Academies offer several two-month Summer Fellowships to enable students/teachers (studying/teaching in India) to work with scientists associated with the three Academies during 2020. A copy of the application format, instructions to applicants including eligibility criteria, and a list of names of scientists/faculty who have consented to guide students/teachers to work on short-term projects is displayed in the online application.

Applications are invited from interested students and teachers from all universities and colleges affiliated to UGC/AICTE/MCI/Accredited Institutions of State Universities for these Fellowships. The application should include: (a) the application form in the prescribed format; (b) scanned copies of mark sheets from class X till the last examination; (c) a write-up (in about 150-250 words) as to what the applicant wants to learn and achieve.

Applications should be submitted by logging onto one of our websites [www.ias.ac.in; http://www.insaindia.res.in and www.nasi.org.in]. The registration number assigned soon after the online submission must be quoted in all future correspondence.

The last date for receipt of applications online is **30 November 2019.**

**Website Links:**

https://web-japps.ias.ac.in:8443/fellowship2020/application_instructions.jsp

https://web-japps.ias.ac.in:8443/fellowship2020/index.html

https://web-japps.ias.ac.in:8443/fellowship2020/applicationform1.jsp

https://play.google.com/store/apps/details?id=org.srfp.srfp2018

**2.DST - Call for Project Proposals for Joint Projects under India - Austria Scientific and Technological Cooperation - 2020-2022**

**Aim of the Programme**

- To stimulate international research cooperation by promoting the mobility of researchers to carry out joint research projects;
- To provide an opportunity for international network and experience researchers.

**Areas of Cooperation**

The call is open to all scientific disciplines within the thematic areas of science and technology

**Closing date for applications**

Applications must be submitted by **31 October 2019**. Applications received after this date are not eligible for funding.

**Website Links:**

https://dst.gov.in/announcement/call-applications-joint-projects-2020-2022

https://dst.gov.in/sites/default/files/Joint%20Call-Austria-For%20DST%20Website.pdf

https://dst.gov.in/

3. **DST - Call For Project Proposal: India-Israel CFP 2020-2022 for Joint Research Cooperation**

## A. AREAS OF COOPERATION

The Department of Science and Technology, Government of India-(referred to as "DST") and the Ministry of Science and Technology of Israel (referred to as "MOST") are providing financial support for joint research activities carried out by Indian and Israeli researchers. Indian-Israeli research teams are hereby invited to submit joint research proposals on:

**1. Advanced materials for next gen solar energy utilization and energy storage**

**2. Quantum devices And Quantum Technologies for sensing, imaging and communication**

## B. LEVEL OF FUNDING AND PROJECT DURATION

The maximum funding available for all research projects approved under this Call is **Rs. 4 crore** for the Indian side and **4,000,000 NIS** for the Israeli side, for a two year period. The allocation for each specific research proposal that is approved will be up to **400,000 NIS** on the Israeli side and Indian side would provide funding to all the approved S&T activities under the project for the two year project period. It is the intention of the program's sponsors to support **approximately 10** joint projects. However, the final number of projects to be sponsored will be determined based on factors such as scientific merit and budgetary considerations. Research projects should be planned on a **two year basis with extension until the end of 2022** Contracts\sanction orders will be signed for the implementation of the

project accordingly.

## C. SUBMISSION OF RESEARCH PROPOSALS

The Indian researchers can download the proposal formats from websites www.onlinedst.gov.in and should submit the completed application form and all relevant information through **e-PMS portal of DST**. Proposals must be submitted to DST through the **e-application system** provided at www.onlinedst.gov.in **by Thursday, December 5th, 2019.**

**Website Links:**

http://dst.gov.in/callforproposals/call-proposal-india-israel-cfp-2020-22-joint-research-cooperation

http://dst.gov.in/sites/default/files/For%20website%20-CFP%20India-Israel%202020-2022.pdf

## You will get the result of your good deeds soon or later

**Reproduced from https://vishalkumar.co.in/2019/05/15/you-will-get/**

One day a man saw an old lady, stranded on the side of the road, but even in the dim light of day, he could see she needed help. So, he pulled up in front of her Mercedes and got out. His Pontiac was still sputtering when he approached her.

Even with the smile on his face, she was worried. No one had stopped to help for the last hour or so. Was he going to hurt her? He didn't look safe; he looked poor and hungry. He could see that she was frightened, standing out there in the cold. He knew how she felt. It was those chills which only fear can put in you. He said, "I'm here to help you, ma'am. Why don't you wait in the car where it's warm? By the way, my name is Bryan Anderson."

Well, all she had was a flat tire, but for an old lady, that was bad enough. Bryan crawled under the car looking for a place to put the jack, skinning his knuckles a time or two. Soon he was able to change the tire. But he had to get dirty and his hands hurt. As he was tightening up the lug nuts, she rolled down the window and began to talk to him. She told him that she was from St. Louis and was only just passing through. She couldn't thank him enough for coming to her aid.

Bryan just smiled as he closed her trunk. The lady asked how much she owed him. Any amount would have been all right with her. She already imagined all the awful things that could have happened had he not stopped. Bryan never thought twice about being paid. This was not a job to him. This was helping someone in need, and God knows there were plenty, who had given him a hand in the past. He had lived his whole life that way, and it never occurred to him to act any other way.

He told her that if she really wanted to pay him back, the next time she saw someone who needed help, she could give that person the assistance they needed, and Bryan added, "And think of me."He waited until she started her car and drove off. It had been a cold and depressing day, but he felt good as he headed for home, disappearing into the twilight.

A few miles down the road the lady saw a small cafe. She went in to grab a bite to eat, and take the chill off before she made the last leg of her trip home. It was a dingy looking restaurant. Outside were two old gas pumps. The whole scene was unfamiliar to her. The waitress came over and brought a clean towel to wipe her wet hair. She had a sweet smile, one that even being on her feet for the whole day couldn't erase. The lady noticed the waitress was nearly eight months pregnant, but she never let the strain and aches change her attitude. The old lady wondered how someone who had so little could be so giving to a stranger. Then she remembered Bryan.

After the lady finished her meal, she paid with a hundred-dollar bill. The waitress quickly went to get change for her hundred-dollar bill, but the old lady had slipped right out the door. She was gone by the time the waitress came back. The waitress wondered where the lady could be. Then she noticed something written on the napkin. There were tears in her eyes when she read what the lady wrote: "You don't owe me anything. I have been there too. Somebody once helped me out, the way I'm helping you. If you really want to pay me back, here is what you do, do not let this chain of love end with you." Under the napkin were four more $100 bills.

Well, there were tables to clear, sugar bowls to fill, and people to serve, but the waitress made it through another day. That night when she got home from work and climbed into bed, she was thinking about the money and what the lady had written. How could the lady have known how much she and her husband needed it? With the baby due next month, it was going to be hard… She knew how worried her husband was, and as he lay sleeping next to her, she gave him a soft kiss and whispered soft and low, "Everything's going to be all right. I love you, Bryan Anderson."

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**Compassion and Empathy**

Compassion is the quality of having positive intentions for others. It is the intention of being of service to other people's happiness & the desire to help alleviate their challenges. It is the ability to understand others perspective and use that as a catalyst for supportive actions.

Compassion is different than Empathy. Empathy is as being when we take on the suffering of others and both likely to lose. Compassion and Empathy are also different from our neurological perspective. Compassions allows us to be rational, understand the big picture, and make better decisions for other people- all for greater good, as opposed to empathy, which narrows our field of vision to single individual or causes. With compassion we are empowered for skillful action.

Let me give an example.

Imagine that you meet your colleague in the office. He or she looks stressed and under tremendous pressure, on the edge of panic. If you reacted with empathy, you would feel sad for him or her, sit down with him or her and feel the stress and pressure together with him or her. In contrast, the compassionate response would be to put yourself in his or her shoes for a moment, notice the pain, and then see if you can help and address the challenges being faced.

Compassion is often mistaken for softness, but nothing could be less true. Compassion is not about giving in to other people. Compassion requires courage and strength at times to face difficult conversations or make tough decisions.

Let me share few thoughts on some misconceptions about compassion.

1. Compassion is not soft, warm and fuzzy. It is hard. Compassion means giving an employee tough but appropriate feedback. Compassion means making difficult decisions for the good of the organization, even when it negatively impacts few individuals.

2. Compassion is an intention that does not necessarily change your actions but changes the way you conduct your actions. There is big difference between giving feedback out of compassion as opposed to giving it out of frustration.

Compassion is extremely important for effective Leadership and compassionate persons are perceived as better and stronger leaders. Compassion fosters true following, trust and engagement. When you have compassion, the people you lead will better trust in your actions and judgments, because they know you have Positive intentions. Compassionate leaders make people feel more valued, feel increased sense of dignity, and have greater pride in the collective culture. This will lead to positive emotions, less anxiety, and quicker recovery from illness. Finally, compassionate company cultures make people act more for the common good within the organization – and beyond corporate walls.

#WishingMostAndMore

R.Ramakrishnan
Group Chairman Office

This issue has an annexure on INVENTE 4.0

This edition of Aspire was compiled by Vinaya Krishna, with support from Saran Prasanth, Mohitha U M, Anupa Sri and Akshay Kanna.

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