

# Mechanical **Aspire**

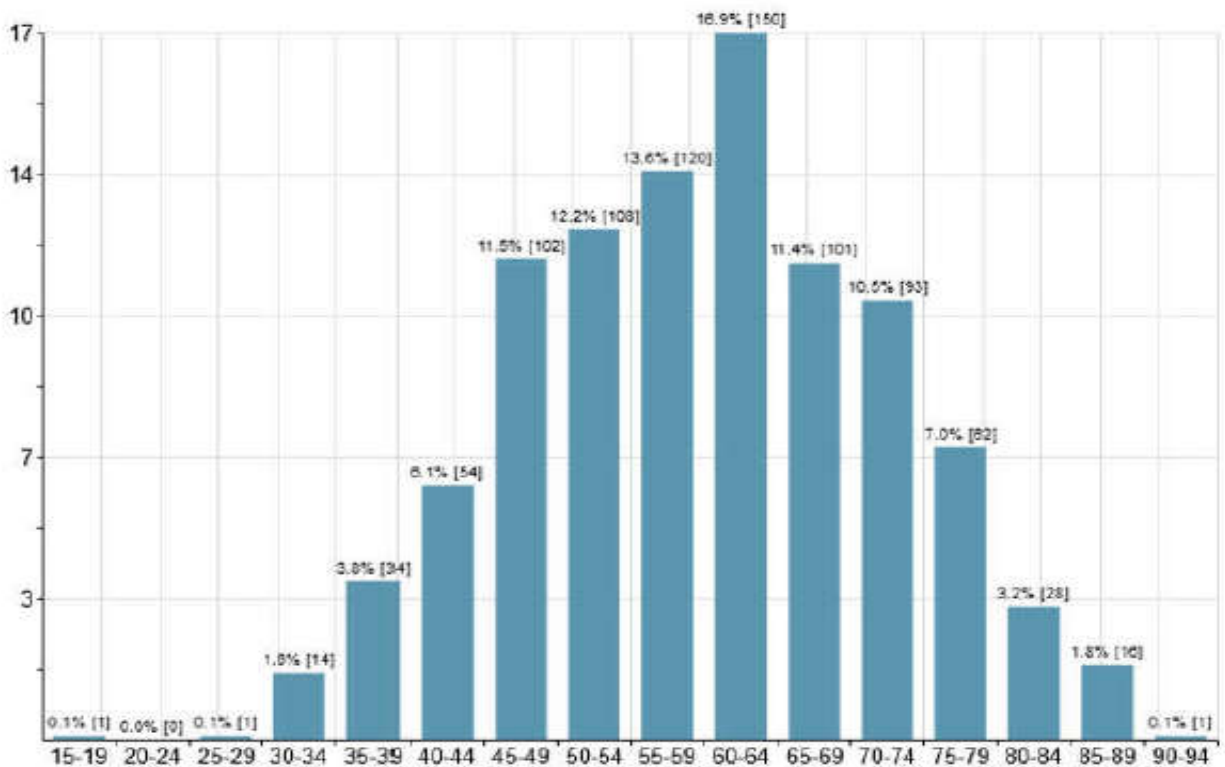
Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 40

## Average Age for Nobel Laureates in all Prize Categories

The ages in the graphs below refer to how old the Nobel Laureates were, the year they were awarded the Nobel Prize. The average age when awarded is 59 for the Laureates in all prize categories between 1901 and 2016. The most frequent age bracket is 60-64.

### Percent and number of all Nobel Laureates in different age brackets



Source: nobelprize.org

## Info to Alumni- Campus Update

Amit Tyagi writes..



**Roshni Nadar Malhotra, Executive Director & CEO of \$7 billion enterprise HCL Corporation and Trustee, Shiv Nadar Foundation** has been felicitated with the "**Lewis Institute 2017 Community Changemaker**" award at the 3rd Babson Connect: Worldwide (BCW) Summit in Bangkok, Thailand from March 23-25, 2017. The award recognises and celebrates an individual who has set something in motion in order to create a positive change and employs the Babson methodology of Entrepreneurial Thought & Action®.

Accepting the award Ms. **Roshni Nadar Malhotra** said, "*The work we do at the Shiv Nadar Foundation is driven by our conviction to drive meaningful transformation by harnessing the power of inclusive education. However, when it is recognized by a reputed institution like Babson, it is a validation that we are working in the right direction. I am heartened and honoured to receive this award and encouraged to work even harder to realize the Shiv Nadar Foundation's vision of nation building through transformational leadership.*"



Watch her live at <https://youtu.be/gUpUZpEXcL0>  
<http://www.babson.edu/news-events/babson-news/Pages/2017-babson-lewis-institute-community-changemaker-award.aspx>

### Workshop



Physics dept co-ordinated a National workshop on Advances in Radiation Monitoring and Environment Technology (ARMET-2017). This was done with collaborative efforts from SSN CREST, Indian Nuclear Society and Indian Association for Radiation Protection. The event, held during 27-28 March 2017, was Co-ordinated by Dr.A.Rajalakshmi and Dr.N.P.Rajesh.



### SSN Research Day



Under the able leadership of Dr.P.Ramasamy, Dean Research, SSN Research Day was celebrated on March 23, 2017. Prizes for several category of awards were distributed.

## Two teams of Second Year win Valeo Innovation Challenge – awarded Rs.3.50 Lakhs each.

Team 1: “The SSN” , consisting of Ankit Kumar, Debal Bhattacharjee, Karthikayan B, Karthikeyan G, Krishnan V. Guided by Dr. S. Suresh Kumar,

Their project aims to increase the safety of the vehicle and the passengers by using a totally different type of frame. It is a research based project and eventually will be fabricated into a prototype.

Team 2 : " AUGMENT" , consisting of D.Vishal , B.Vishal and Neil Ashwin Raj

### The Challenge:

Valeo is offering young students worldwide the opportunity to make **the car of 2030** and the way it's used more intelligent, intuitive, green and fun. Comprising teams of two to five people, students from any discipline can take part by presenting a relevant, innovative project in English. The aim is to stimulate the students' creativity, enabling them to form multidisciplinary teams.

### The Competition Level:



### The Selection Process:

The selected teams now have until July 13 to test, improve and prototype their ideas using a € 5,000 grant from Valeo. When this stage is complete, 8 finalist teams representing both categories combined, will be chosen to present their project to a grand jury in Paris. The winning team in each category will take home €100,000 in prize money and the second-place teams in each category will receive €10,000. In addition, the first-place team in the technological innovation category will be able to join a start-up incubator to give their innovative project a further boost in its development.

### The Uniqueness of SSN Teams that passed the SEMI FINALS:

- Teams are short listed under 2 categories namely ‘New ways to use cars’ and ‘Technological Innovation’.
- From India, 6 teams are shortlisted under these categories.
- **Among them, only 2 teams are selected in the category of ‘Technological innovation’ and**
- **both are from Department of Mechanical Engineering of SSN College of Engineering.**

**Invited  
Talks**



Dr.S.R.Koteswara Rao, was invited to deliver a Key Note lecture at MIT - Anna University on " Friction stir welding of Al and Mg alloys- Thick plates" as part of the International conference Recent Innovations in Production Engineering- RIPE 2017, held on 24th and 25th of March 2017.



Dr.S.Vijayan was invited to deliver a Guest Lecture on "Recent Developments in Under water welding", at AMET University [16-3-2017]



Dr. K.S. Vijay Sekar, Associate Professor, Mechanical Department, delivered an Invited Talk on " Finite Element Analysis" at DMI College of Engineering, Chennai. [3-3-2017]



Dr Alphin M S, Asso. Prof/Mech, delivered an invited technical talk in the workshop, "Mechanical Vibration, Mitigation Approaches and Measurement Techniques for Structural Applications", organized by SVCE, Sriperumbudur. [30-3-2017]



Dr. N. Nallusamy, Professor, delivered a keynote lecture on "Solar energy storage and utilization using thermal energy storage systems" in the International conference on Renewable Energy Science and Technology - ICREST 2017" organized by the Department of Energy Science, Alagappa University, Karaikudi, TN. [10-3-2017]

### **Invited reviews / Session Chairs**

Dr.K.S. Vijay Sekar, Associate Professor, Mechanical Department, received Certificates of Appreciation from Institution of Engineers, Kolkata, for Reviewing the Research articles submitted to their Springer Journals, which has been downloaded many times.

Dr. K. Jayakumar, Associate Professor ,chaired a technical session (Material and Manufacturing Engineering) in the Department of Mechanical Engineering in the "International Intellectual conference on Advances in Science and Engineering" - IIASE 2017 Organized by Aalim Muhammed Salegh College of Engineering, Avadi, Chennai, on 04.03.2017.



Dr.L.Poovazhagan, Associate Professor/Mechanical Engg., acted as a session chair in the international conference on "International Intellectual Conference on Advances in Science and Engineering" held at Aalim Muhammed Salegh College of Engineering on 04.03.2017.

## Conference papers

Dr. K. S. Jayakumar, Associate Professor, presented the technical paper entitled "Comparative study of heat storage and heat release characteristics of sensible and latent heat thermal energy storage systems" in 1st International Conference on Recent Advances in Mechanical Engineering-ICRAMEK'17, held at Government College of Engineering, Salem, TN on 2 - 3 March, 2017. Co-authors are Mr. S. Mohamed Safivudeen, PG Energy Student and Dr. N. Nallusamy, Professor



Dr. N. Nallusamy, Professor, presented the technical paper entitled "Optimization of Spray Characteristics of Bio-diesel and Diesel blends and Performance Characteristics of DI Diesel Engine at Optimized Spray Conditions" in 1st International Conference on Recent Advances in Mechanical Engineering-ICRAMEK'17, held at Government College of Engineering, Salem, TN on 2 - 3 March, 2017. Co-authors are Mr. D. Karthick, PG Energy Student and Dr. P. Raghunath, AP/Mech, SVCE

Dr. N. Nallusamy, Professor, published a technical paper entitled "A review on third generation biofuel - Microalgae and its characteristics on compression ignition engines" in the proceedings of National Conference on Evolution of Green and Materials Processing Technology (NCEGMPT2K17) organized by Sri Venkateswara College of Engineering, Sriperumbudur during 02 – 03 March 2017. Paper was presented by Mr. V. Venkatesan, Research scholar. Co-authors: Dr. N. Nallusamy and Mr. D. Karthick, PG Student

Dr. N. Nallusamy, Professor, published a technical paper entitled "Waste Heat Recovery from IC Engine exhaust using a Beta-type Stirling Engine" in the proceedings of National Conference on Evolution of Green and Materials Processing Technology (NCEGMPT2K17) organized by Sri Venkateswara College of Engineering, Sriperumbudur during 02 – 03 March 2017. Paper was presented by Mr. N. S. Siddharth, IV Mech student. Co-authors: S. Vishakaraj, V. Vishal, A. Amartya Karthic, UG Mech IV year students and Dr. N. Nallusamy

Dr.L.Poovazhagan, Associate Professor/Mechanical Engg., presented a paper titled "Assessment of Factors Influencing Surface Roughness on Machining of Mg/Cu-Nano B4C Hybrid Composites" in the international conference on "International Intellectual Conference on Advances in Science and Engineering" held at Aalim Muhammed Salegh College of Engineering on 04.03.2017.

Dr. K. Jayakumar, Associate Professor presented a paper with the title of "Study of cutting force and surface roughness in Ball nose end milling of A356 alloy/SiCp metal matrix composite" in the International Conference on Emerging Trends in Materials and Manufacturing Engineering (IMME17) at NIT Trichy (March 10 to 12, 2017).

Dr. K. Jayakumar, Associate Professor presented a paper with the title of "Experimental studies on Drilling of 410 Stainless Steel" in the International Conference on Emerging Trends in Materials and Manufacturing Engineering (IMME17) at NIT Trichy (March 10 to 12, 2017). Coauthors are B.E final year students (A. Jayaganth and A. Deepak)



Dr.K.S.Vijay Sekar, Associate Professor has got his research paper titled "Some investigations on finite element analysis of metal matrix composite machining processes", accepted for presentation (as an INVITED Paper) in the XIV International Conference on Computational Plasticity – Fundamentals and Applications – COMPLAS 2017, Barcelona, Spain, which will be held on September 5-7, 2017

Dr. S. Soma Sundaram co authored a paper titled "Experimental investigation on the effect of introduction of fins in a plate double pass solar air heater" in National conference on smart energy systems for sustainable development. Mr. S. Japdrew and Mr. R. Rajesh were the other authors [3 to 4 March 2017]

Center for Composite Materials, Kalasalingam University organized the Second International Conference on "Advanced Materials & Processing amp17" , in which the following papers were presented.



- Prof.K.Subbaiah- Laser beam welding of AA5083 Aluminium alloy plates
- Dr.S.Vijayan- Multi response optimization of Activated Tungsten Inert Gas Welding process parameters on Duplex Stainless steel (2205) using Taguchi based Grey relation Analysis.
- Dr.K.Babu- Effect of using cold air jet, generated by a portable vortex tube, on machining performanec during turning.
- Dr.Sureshkumar- Ballistic performance of similar and dissimilar (AA6061-T6 and AA 7075 T6) welded joints for Aerospace applications.
- Mr.B.Jayakishan- Performance and emission Characteristics of Al<sub>2</sub>O<sub>3</sub>-TiO<sub>2</sub> coated piston DI diesel engine fueled with poultry waste bio diesel.
- T. Surya Bharathi, S. Prem kumar, L. Vijayakumar, M. Vigneshwar of final year Mechanical Engineering- Performance investigation of thermoelectric generator as a potential source of electricity (Co-author- Dr.A.S.Ramana)
- P.Gopinathan, R.Rajeswari-Optimization of process parameters of CNC milling of Mg-Al<sub>2</sub>O<sub>3</sub>-B<sub>4</sub>C hybrid Metal Matrix Composite
- P.Gopinathan, R.Rajeswari-Investigation on mechanical properties of sintered hybrid Magnesium -Alumina-Boron Carbide metal matrix composite

## Programs Attended

Dr.M.Selvaraj, attended a One day workshop, "Mechanical Vibration, Mitigation Approaches and Measurement Techniques for Structural Applications", organized by SVCE, Sriperumbudur. [30-3-2017]



Dr. N. Nallusamy, Professor, attended a one day workshop on "Opportunities and Challenges in Energy Storage Systems for Building, Solar & Wind Sectors organized by Institute for Energy Studies, Anna University, Chennai on 04.03.2017.



Dr.R.Prakash, Associate Professor, Attended a two day seminar on "Advanced Engines and Emission Control Technologies" from 03.03.17 to 04.03.17 at CEG, Anna University.



Dr.M.Nalla Mohamed, Associate professor, attended Two days workshop on 'Material Characterization' on 24-25 of February 2017 organized by Department of Mechanical Engineering, CEG, Anna University, Chennai

**Programs Conducted**



1

Dr.M.Suresh and Prof.N.Nallusamy conducted a workshop on Computational Fluid Dynamics during 16-17 March 2017.



2

Dr.K.S.Vijaysekar and Dr.S.Sureshkumar conducted a Refresher Course workshop for students on Finite Element Analysis (FEA), on 23-3-2017.



3

Dr.S.Sureshkumar and Dr.A.K.Lakshminarayanan conducted a one day video workshop titled " Mechanical Engineering Failure Analysis (MEFA-2017)" on March 20th 2017, exclusively for students.



4

Dr.L.Poovazhagan & Dr.K.Rajkumar, Associate professors/Mechanical, organized one day national workshop on "Advanced Materials and Machining Technology" on 24.03.2017.





Dr.K.Jayakumar, Dr.K.L.Harikrishna , Dr.K.S.Jayakumar and Dr.D.Anantha Padmanabhan organized a National Conference for Mechanical Engineering Research Scholars [MERS], on 31<sup>st</sup> March ,2017.

5



### Journal Publications

Dr.M.Nalla Mohamed, Associate Professor, along with JRF cum Research Scholar A.Praveen kumar , have published three papers in Procedia Engineering, Elsevier publication, Scopus index=0.66

1.A.Praveen kumar, M.Nalla Mohamed, Crush performance analysis of combined geometry tubes under axial compressive loading, Procedia Engineering, 173(2017) 1415-1422

2.M.Nalla Mohamed, A.Praveen kumar, New insight to improve energy absorption characteristics of long circular tubes with stiffeners as controllable energy dissipating devices, Procedia Engineering, 173(2017) 1399-1406

3.M.Nalla Mohamed, A.Praveen kumar, Numerical and Experimental study of the effect of orientation and stacking sequence of petalling of composite cylindrical tubes under axial compression, Procedia Engineering, 173(2017),1407-1414

Dr.B. Anand Ronald, Assoc. Prof/ Mech, Ph.D Scholar (S. Arokiasamy)  
Paper entitled "Experimental investigations on the enhancement of mechanical properties of magnesium-based hybrid metal matrix composites" was accepted for publication in International Journal of Advanced Manufacturing Technology, Impact Factor = 1.6



### Internal Recognition

International Conference of Mechanical Engineering Design 2016 , conducted by Dr M Selvaraj, Dr M S Alphin, Dr Nalla Mohamed and Dr G Selvakumar , was selected as **one of the best three** Research level International Conferences for 2016 at Research Day of SSN Institution.[23-3-2017].

Overall, mech **missed the second position** by 2 marks, in the Best Research Department category. (ECE stood first and Physics stood second.)

### Project News

**Dr.S.Suresh Kumar, Associate Professor has sent a project proposal to ARDB (Aeronautical Research and Development Board) titled"Ballistic and shock Performance of Carbon Nano Tube dispersed GLARE fiber metal laminates for light weight aircraft structures". The budget for the proposal is 28,66,000. [4-2-2017]**

## STUDENT ACTIVITIES:

- D Vishal of second year, won 3rd prize in Paper Presentation in XLR8 2k17 conducted by Velammal College of Engineering .[4.2.17]
- EDWIN DEVASSY K of second year, participated in the AUTOTRIX workshop organized by PRAGYAN at NIT, Trichy [3.3.17]
- PRATHEESH KUMAR CN of second year, won third place in JUNKYARD wars in IIT-MADRAS mechanical symposium MECHANICA [4.3.17]
- SALAVADESHWAR H of second year, was part of a theater performance under the banner of Crea Sakthi [18.3.17]
- B. ASHWIN YOGESH of third year, is undergoing internship at Daimler India commercial vehicles, Oragadam for a period of 6 weeks [21.2.17]
- Akshay Aravindan of third year, was judged as a finalist at SSN Debates and was chosen to serve as the executive board member at VIT Chennai Model United nations. [8.3.17]
- Manoj Umopathy, of third year ,was a part of the Winning SSN football team in the SSN Football championship [23.3.17].
- SIDDHARTH N.S. of final year, Presented his paper titled 'Waste Heat Recovery from IC Engine exhaust using a Beta type Stirling Engine' at the National Conference on Evolution of Green and Material Processing Technology- 2k17 conducted at Sri Venkateswara College of Engineering [3.3.17]

Faculty Write up

Dr.Suresh writes..

Next Office Bearers



Myself and Dr.K.L.Harikrishna conducted the selection/ election process for identifying the next office bearers for Mech Engg Association.

Mr. Akshay Aravindan from III year 'A' sec. has been chosen as Mech. Engg. Association-Student President for the year 2017-18, based on his all round performance (Academic, co-curricular and extra-curricular activities).

Additionally, 4 students from III year 'A' and 4 students from III year 'B' have been elected as association members.

III year 'A' sec.

Mr. Aakash S K  
Mr. Kirubakaran A R  
Mr. Kishore A  
Mr. Master Eniyan S V

III year 'B' sec.

Mr. Prathap Seelan G P  
Mr. Nishant P Shah  
Mr. Vishnu Shankar S  
Mr. Yeshwant V

Dr.L.Poovazhagan and Dr.K.Rajkumar organized a one day workshop on "**Advanced Materials and Machining Technology**" on **24.3.2017**.

Around 50 participants (Faculty, Scholars, PG/UG students) attended the workshop, out of which **30 were external participants**. The workshop was well received by the participants.



Dr.R.Krishnan (Scientific Officer-E/IGCAR),  
Dr.Koteswara Rao (Prof./Mech./SSNCE) and  
Dr.G.Selvakumar (Assoc.Prof./Mech./SSNCE)  
delivered keynote lectures.



Dr. N. Nallusamy and Dr. M. Suresh conducted a two-day workshop on “Computational Fluid Dynamics – A Practical Approach” on 16<sup>th</sup> and 17<sup>th</sup> March, 2017. 37 participants attended the workshop.

On day-1 morning, Dr. N. Lakshmi Narasimhan from our department delivered the lecture on “Fundamentals of Computational Fluid Dynamics”. He also gave an introductory hands-on-session on CFD.

In the afternoon, Dr. B. S. V. Prasad Patnaik, Professor, Department of Applied Mechanics, IIT Madras, delivered a lecture on “Introduction to Turbulence and Models”.



On day-2, Dr. N. Kulasekharan, AGM - Virtual Engineering, Fiat Chrysler Automobiles, Chennai, conducted a full day hands-on-session in “ANSYS Fluent” for simulations/applications of CFD. All the participants felt that this program was useful to them.

**ONE DAY NATIONAL LEVEL WORKSHOP on "Refresher course - Finite Element Analysis", Thursday, 23rd March 2017**

- A One day National Level Workshop on Finite Element Analysis was conducted by Dr. K.S. Vijay Sekar and Dr. S. Suresh Kumar, Associate Professors of the Department of Mechanical Engineering on Thursday, March 23rd 2017.
- The main points of the VI semester FEA syllabus was covered in 4 sessions by the two faculty members.
- The twin objective of the workshop was to disseminate knowledge in the field of FEA as well as address the concerns in learning this difficult subject, from the student's perspective.
- The workshop had a total of 40 participants of which 19 were from other institutions and the rest from SSN.
- The topics covered are as follows:

**Dr. K.S. Vijay Sekar - Introduction to fem, Weighted residual methods, FEM FORMULATION, TWO DIMENSIONAL SCALAR AND VECTOR VARIABLE PROBLEMS**

**Dr. S. Suresh Kumar - BAR AND BEAM STRUCTURAL AND THERMAL PROBLEMS, BAR AND BEAM VIBRATION PROBLEMS ISOPARAMETRIC FORMULATION.**



## Faculty Write up

## Conference Attended

Dr. S. Soma Sundaram writes...

The 1<sup>st</sup> International and 18<sup>th</sup> National ISME Conference was held on 23-35 February, 2017 at National Institute of Technology (NIT) Warangal, Telegana, India. The main theme of the conference was on "Enabling Sustainable Development". The conference was a grand event with about 150 paper presentations and seven keynote speakers from eminent universities in India and abroad. The papers were presented in various streams as Machine Design, Thermal Engineering, Materials & Manufacturing and Industrial Engineering.



A few of the interesting lecture topics delivered include, the usage of bionic surfaces of lotus leaf to improve the longevity of bearings; the study of ancient structure of grand anicut across Cauvery and its effect on silt deposition; design of micro devices for separation of plasma from blood; chemical treatment of explosive to convert it to fertilizers.

## Faculty Write up

Prof.Hendrick Musa Langa's visit to SSN-mech dept on 20th March 2017

Details: Prof.Hendrick Musa Langa, Director of F'SASEC [French South African Schneider Electric Education Centre],located in Vaal University of Technology (VUT), South Africa, came as a delegate for the International Conference conducted by EEE dept. He visited mech dept to understand the possibilities of Interaction. He was accompanied by Dr.M.Senthilkumaran, EEE . Mech was represented by Dr.N.Lakshmi Narasimhan and VeA.

### Points discussed:

- All virtual interaction on projects that do not involve a physical presence and a financial commitment, can be done at any point in time.
- Faculty from SSN Mech can guide students of VUT through virtual interactions.
- Any other activity like exchange of students or faculty, has to be through the accepted policies of VUT and SSN .
- Faculty at SSN mech can come to VUT on short stay visits for any Research Collaboration, provided expense for travel / stay can be supported.
- Any details required on projects done and faculty research areas can be provided based on need.

### Brief on current system in SSN-mech:

- SSNCE comes under Anna University Curriculum.
- The mechanical engineering curriculum has a Design and Fabrication component as a Practical laboratory in sixth semester. Students are encouraged to fabricate working models and some have even gone to the extent of applying for patents.
- There is a second project component in the eighth semester. Students work on several areas of research and usually end up in presenting their papers in conferences or publishing in Journals.
- Usually, students spend between fifteen days to one month, during their vacation, in industries, for their internships. Some students get to spend more time in industry, if they are offered their final year projects in industry.
- There are two post graduate programs, in Energy engineering and in Manufacturing engineering. The PG programs offer a course-free final semester, wherein the student can spend six months in an industry to do their project.
- In addition, the Management offers funding for student projects, every year. Using this opportunity, right from third semester, mech undergraduate students start their research / project work.

Dr.M.NallaMohamed, and Dr.D.Anandapadmanabhan jointly organised a guest lecture on **22.03.17** to third year Mechanical Engineering students. The topic of the lecture was **“What Industry expects out of young graduates”**.



- The lecture was delivered by Mr.Srirajasekhar Bobby Koritala who is a seasoned executive with 25 years of experience.
- Mr.Srirajasekhar, who is currently the CEO of an e-commerce company, talked about his methods of recruitment which includes giving a new task to the prospective employee and asking the employee to solve the task within a particular time frame. He talked about the value of hard work and learning a variety of skill sets.
- He was very much impressed with the research oriented culture of our college. The students were very interactive and asked many questions about life in the U.S, possible courses for further study, the role of theory subjects in an increasingly practical environment.
- **Mr.Srirajasekhar has agreed to consider our requests for internship in his company , which he may discuss during his next visit to our college sometime in May 2017.**

## Faculty Write up

## Invited Lecture



Dr.M.S.Alphin writes...

I was invited as a Resource person for the below workshop , for delivering a technical talk on Vibration Mitigation.

Sri Venkateswara College of Engineering, Sriperumbudur organised ISTE Sponsored One Day National Level Workshop On Mechanical Vibration, Mitigation Approaches and Measurement Techniques for Structural Applications  
*30 th MARCH 2017*



### Course Covered

- Free and Forced Vibration Analysis
- Basics of Vibration System under Multi- degree of Freedom
- Vibration Equipment's and Measurement Techniques
- Mechanical Vibration: Mitigation approaches

### Practical sessions on

- Free and forced Vibration study of Plates / beams
- Modal Shape Observation and Analysis

Dr. Chandramouli, IITM  
Dr. Vasudevan, VIT Univ  
Dr. Sujatha, IITM  
Dr. Alphin MS, SSN

Dr Ramesh, SVCE



Discussions with Members of  
Murugappa Chettiar Research Centre (MCRC)  
Taramani, Chennai.  
At their premises ,On 9-3-2017

### Members from MCRC

1. Mr. Raghunandan K. – CEO (MCRC)
2. Dr. Sharma K.K. - Chief Scientist
3. Dr. Unnamalai N - Principal Scientist
4. Dr. K. Perumal - Principal Scientist
5. Dr. Maya Subramoni - Senior Scientist
6. Dr. Sugumaran P.- Sr. Scientist - Energy
7. Dr. Arunkumar J. - Technology Transfer Officer
8. Dr. Chandrasekareenthiran S. - Research Associate
9. Dr. Ravichandran P. - Programme Officer
10. Dr. Shashirekha V. - Young Scientist
11. Mr. Chakrapani V. - Manager (Extension)
12. Mr. R. Karthic R. - Field Coordinator
13. Mrs. Baby Malleswari R. - Project Fellow

### Members from SSNCE

1. Dr. N. Lakshmi Narasimhan



2. Dr. M. Suresh



**Meeting in the Conference room (10.00 a.m.- 12.30 p.m.):** This meeting was a **follow up on the action plans after our first meeting on Aug 1, 2016** with MCRC on possible student internships and projects of social relevance.

**Welcome and introduction :** The meeting started with a welcome note by Dr. K.K. Sharma (Chief Scientist) and self introduction of the entire members present. A brief introduction on MCRC and its scope of research was made by Dr. Sharma. The CEO (MCRC) was not present during the meeting due to an urgent official assignment.

**Objective of the Meeting :** The objective of the meeting was to explore the possible projects that can be taken up by students of SSN jointly with MCRC. Dr. Lakshmi Narasimhan and Dr. Suresh presented the possibilities of student as well as faculty interaction with MCRC. Followed by, was a list of possible projects with titles, presented by Dr. Sharma, on behalf of MCRC.

**Project Titles & Briefing :** **There were about 20 titles shared by MCRC team where students can play a role as interns or project members.** A briefing about the individual projects by the respective lead members was made to highlight what is expected out of the students involved in the project.

**Further Plans :** That was a great sharing of opportunities where our students could involve in cost effective socially relevant projects and contribute to value addition / investigating the performance of some of the MCRC's systems that are already functional.

We understand from the discussion that our students can be involved under the following categories in future:

**Category-1 :** Student interns for testing and performance studies, if any, to be carried out for the existing mechanical systems at MCRC, Taramani.

**Category-2:** If any value addition to an existing system needs to be done, the same can be taken up as design & fabrication project or as final year project by a team of our students.

**Category-3 :** Any new systems to be developed addressing specific needs can be taken as a long term assignment involving student team(s) comprising 3 UG and 1 PG students at the least.

Dr. Suresh and Dr. Lakshmi Narasimhan would like to thank the CEO (MCRC), and the entire team members for sparing their time and sharing the knowledge with great enthusiasm and for their very kind hospitality.

We both were enthralled by the lively project titles that MCRC shared with us, highlighting the specific needs of each and every individual project during the discussion. We place our sincere thanks on behalf of our Department as well as our institution to the Team members of MCRC. At the outset, a warm thanks to the CEO (MCRC) for his valuable suggestions and details shared during a short discussion with us in his room amidst his tight schedules.

We look forward taking our interaction to the next possible level. Shall share the list of students and our road map on the line of action soon to MCRC.

Our Special Thanks to Dr. Sharma and Dr. Unnamalai for the excellent coordination and hospitality.

### **Feedback Mail from Dr. Sharma**

Dr KK Sharma - Chief Scientist - MCRC <sharmakk@mcrc.murugappa.org>  
To: Lakshminarasimhan N <lakshminarasimhann@ssn.edu.in>  
Cc: Suresh M <Msuresh@ssn.edu.in>

Mon, Mar 13, 2017 at 8:31 AM

Dear Sir,

Thanks for your mail. It was a good experience for us too to have discussions with you and Dr Suresh. I thank you both for the initiative.

I am waiting for the information from my colleagues on the details of the projects/ topics and will forward the same to you for your use.

Looking forward for this mutually beneficial learning experience with you and your team.

*With Best wishes and regards,*

Dr. K. K. Sharma  
Chief Scientist

The objective of this interaction is to sensitize our faculty and students on the real needs of the Industry, so that our projects would move closer to real applications- VeA

- **For a Good Researcher, Research is a culture and publishing is a habit.**
- However, for any habit to set in, the first steps are quite undefined and very difficult.
- For a fresher who has not yet been initiated into publication, publishing is a night mare.
- It is like a baby learning to walk. The baby needs the support of a baby-walker or a firm elderly hand, to stand up and start walking.
- In that sense, a UG, PG or Ph.D. Scholar needs support for his/her first paper. In conventional conferences, when they compete with established researchers, they are at a disadvantage. They face difficulties in acceptance standards and levels.
- In order to support such research Scholars, we have tried **to provide a platform among equals-where similar novice researchers** get together and share their work. This will help them learn from each other.
- Also, the co-ordinators have done a great job of **making it possible to get the papers published,** after due review.
- The journal they have lined up, is listed in Anna University Annexure II, and is recognised as a journal with impact factor by Scimago Journal Ranking [SJR] system.
- **Therefore, the presenting scholars get to open their publication account.**
- We hope this gives them enough confidence to better their research and move to journals with higher impact factors in due course.

#### Some statistics on the conference

- Total paper received: 68 Nos; Found suitable for presentation: 60
- No of external papers : 14; No of papers by SSN Mech PhD scholars: 13
- External participant's colleges-Other states (2 Nos)
  1. Veermata Jijabai Technological Institute, Mumbai
  2. KIIT University; Bhubaneswar
- Other colleges within Tamilnadu (11)
  1. PSG Tech, Coimbatore (2 papers)
  2. Annamalai University and A.D.M College for Women (Autonomous), Nagapattinam
  3. VIT, Chennai (2 papers)
  4. SASTRA Univ, Thanjavur (2 papers)
  5. Sathiyabama Univ, Chennai
  6. Saveetha Univ/Engg College, Chennai
  7. Vel Tech Univ, Chennai (3 papers)
  8. Kongu Engg college, Erode
  9. University college of Engineering, Panruti
  10. GKM College of Engg, Chennai
  11. IFET College, Vilupuram

For a beginning,  
this kind of response from  
Several colleges spread across Tamilnadu,  
and also from other States, is an  
Indication that this is a niche area.  
We will work towards nurturing  
this widespread interest  
Among Research Scholars.- VeA



The Conference was inaugurated by Dr.B.S.Murty, **Professor, IITM, Metallurgical Engg dept.**

He delivered a Keynote Lecture on Nano Material production.

He traced the impressive journey on how his work on nano materials, lead to several publications, patents and industrial applications.



The Second Key note address was by Dr.A.K.LakshmiNarayanan **an ardent researcher as well as a celebrated reviewer of Taylor and Francis journals.**

He explained to the scholars on what is expected in a research paper in the reviewer's point of view.

The sixty papers were then organized through four sessions (two parallel sessions at a time). Alongwith the co-ordinators, Prof.K.Subbaiah, Dr.M.Suresh, Dr.B.Anand Ronald , Dr. L.Poovazhagan , Dr.K.Rajkumar and Dr.A.S.Ramana, chaired the technical sessions.



**Keynote Address 1**  
**Nano Materials with Exceptional Properties Developed through Top-Down Approach**  
**B.S. Murty**

Institute Professor and Girija & R. Muralidharan Chair Professor  
Head of the Department of Metallurgical and Materials Engineering  
Indian Institute of Technology Madras, Chennai 600036, India  
[murty@iitm.ac.in](mailto:murty@iitm.ac.in), [www.mme.iitm.ac.in/murty](http://www.mme.iitm.ac.in/murty)

**Abstract:**

High energy ball milling is a 'far from equilibrium' processing route that has been established as a prominent top-down route for the synthesis of nanocrystalline, quasicrystalline, amorphous materials and high entropy alloys with interesting properties and applications. Nanocrystalline metals, alloys, intermetallics, ceramics and composites have been successfully synthesized in a number of systems by this route. In-situ nanocomposites can also be synthesized by this route by adopting reactive milling. The size effects in phase formation and phase transformations has been a very interesting and challenging field of study in the advanced materials synthesized by this route.



The materials synthesized at these non-equilibrium conditions have shown exciting properties that are significantly different from the conventional materials. This method also has demonstrated its superiority over other non-equilibrium processing routes such as rapid solidification processing in a number of ways. Understanding the process has always been very challenging due to its extreme non-equilibrium nature. The current talk brings out insights into the fundamentals of phase formations at nano scale, the exciting properties of the materials developed through this route, their interesting and wide ranging applications and the challenges ahead.

**Keynote Address 2**  
**Research Paper Writing – From Experiments to Quality Publication**  
**Dr.A.K.LakshmiNarayanan, SSNCE.**



This presentation will cover the following aspects related to the process of writing and submission of a research paper, with few case studies in the field of welding (**Note:** can be adopted for other fields of mechanical engineering).

The lecture will also cover the reviewing process adopted by reputed international journals and quality metrics of the published papers.

**Experimentation** : Selection of research field, Literature review and finding the scope, framing objectives, Planning and execution of experiments.

**Converting data into a research paper** (i.e., Short communication or Full length original paper) : Preparing layout based on the data available, Finalizing and arranging the figures and tables to be included, adding description to figures and tables, and deriving precise conclusions.

**Submission of papers** : Plagiarism, Highlights, prime novelty statement, technical check results, Graphical abstract, Publication options, Addressing the reviewers comments during paper revision

**Quality metrics** : Scopus Author Identifier, Thompson Reuter Impact Factor, Cumulative impact factor, Total citations, H-Index.

I attended a course “Rarefied and Microscale gases and Visco elastic fluids – a Unified framework”, conducted by IIT Kanpur, during 23rd Feb to 2nd March

**MOTIVATION** : The processes occurring around the spacecraft are quite complex and involve the synthesis of chemical kinetics, quantum mechanics, radiation physics, and ablation effects with fluid dynamics. The atmosphere at high altitudes is often rarefied and conventional fluid dynamic analysis is no longer applicable and it is often impossible to reproduce such high energy, high speed rarefied conditions in wind tunnels on Earth.



Narmadha of Third year

Actual flight tests are even more expensive. If numerical simulations can reproduce the experimental data that is available, it can be used with confidence, as a fast and inexpensive design tool for new spacecraft, flying new missions.



**WHAT WAS TAUGHT** : By attending the course, I had a chance to get important insights from different Professors like Prof. Rakesh K. Mathpal; IITK on DSMC (Direct Simulation Monte Carlo) method which is used to solve Boltzmann's equation for high Knudsen number flows.

Prof. Rho S. Myong; GNU was the foreign faculty and the main course instructor. His lectures were based on NCCR model which he developed to simulate rarefied conditions. Special lectures were made by Professors from different IITs. Prof. Sarith P. Sathian; IITM, on MD (Molecular Dynamics) simulations which is used for studying the physical movements of atoms and molecules.

Prof. Upendra V. Bhandarkar;IITB on Ab initio and TCE(total collision energy) models. The TCE model is commonly used in DSMC to model reaction probabilities. The TCE model reproduces Arrhenius rates under equilibrium condition. The quasi-classical trajectory method based on Ab initio model can generate collision cross sections, reaction probabilities, and internal energy exchange models. Accurate gas properties can be derived from a set of these calculations.

Prof. Shripad P. Mahulikar;IITB, gave a presentation of his experiments at IITB on "Role of Surface Radiation in Micro-heat Exchanger ".Prof. Amit Agrawal;IITB on Higher-order continuum transport equations. We also had lab-sessions where we developed codes for doing some basic simulations.

**OTHER ACTIVITIES:** I visited the **Non-Equilibrium flow laboratory** where a hybrid DSMC-collision limiter solver is being developed by the M.Tech and Ph.D students of IITK for ISRO to simulate it's future missions. I also had the chance to visit the **National wind tunnel facility** (one of its kind) where fluid flow around a model of a power plant was being tested in the closed tunnel. I visited the **High-Performance Computing Laboratory** and got these golden words of motivation from Prof. Tapan K. Sengupta "**Strive for excellence in your field. You've got to be irreplaceable**". I also visited the **Flight Laboratory** where gliders and powered aircrafts were roaring in the sky and students were taking their flight training.

**THE HIGHLIGHT:** The best thing about GIAN courses is that you get the **opportunity to interact with the pioneers in the field**. The people who attend the course are also those working on problems in the same field. I had a chance to meet people working at ISRO,DRDO and people doing their Ph.D in the field of rarefied flows besides the different course instructors from different IITs. GIAN courses help us to know about the current opportunities, theories, problems and experiments going on in the field which are dynamic and ever-changing. I am so grateful to have had a chance to attend such courses due to which I had life-changing opportunities knock at my door.



**Striking a Flying pose...**

More about the course at <https://www.iitk.ac.in/tkic/workshop/Rarefield-and-Microscale/>

Student write up

After three books, third year student, C.Arivazhagan has now ventured into a monthly Magazine. Have a look at the scope of the Magazine...



**கைத்தட்டி**  
மாத இதழ் சமூக மாற்றத்திற்கான ஊன்றுகோல்

|              |             |           |
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| தன்னம்பிக்கை | சமூக அக்கறை | பெண்ணியம் |
| பெரியாரியல்  | அறிவியல்    | தொடர்கள்  |
| கட்டுரை      | சிறுகதை     | கவிதை     |

**இன்னும் ஏராளம்...**

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பதிப்பக நூல்கள் உருவாக்கவும் வெளியிடவும்...

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தருமபுரி - 635 205  
தொடர்புக்கு: 73733 33078  
மின்னஞ்சல்: arivazhagancm@gmail.com



## Student write up

An industrial visit to the integral coach factory Chennai was conducted by the Mechanical Engineering Department on 14th of March 2017 for II<sup>nd</sup> Year (IV Semester) B Section students. The industrial visit was of great help to students as it gave a practical outlook that supplemented the theoretical knowledge from subjects like Manufacturing Technology and Engineering Materials and Metallurgy.



The first session was about coach assembly where the different parts of a coach were observed. The various mechanisms involved and the technology used was explained to students. The various components and machining processes like the use of CNCs for drilling holes were observed. The session gave an insight on the various automated processes involved like drilling, CNC 5 axis milling machine and robotic resistance spot welding machine, laser welding and cutting machine.

From the metallurgical point of view, the various materials used in different parts of the coach and their properties were understood. The session after lunch was in Shell which is a manufacturing unit. Various manufacturing processes like manufacturing of springs and their heat treatment subsequent quenching and testing was observed. Various other processes like rolling of metal sheets, pressing and other processes were observed. Overall the industrial visit was very useful and productive to the students.

- We are thankful to **Mr. Sreetharan**, Senior Section Engineer, ICF Chennai for helping us throughout the visit by giving valuable technical inputs and for the fruitful discussions.
- Mr. S. Deva Prashanth was the student coordinator for the visit.
- Our Faculty, Dr. A. K. Lakshminarayanan and Dr. R. Damodaram accompanied the students.

March 23, 2017

Sunlight is normally in short supply in Germany this time of year, and the German government is one of the world's biggest investors in renewable energy. **German scientists switch on the 'world's largest artificial sun'** in an attempt to create climate-friendly fuel

- The giant honeycomb-like structure uses 149 large cinema spotlights ,spread across a surface 45 feet high and 52 feet wide, to focus energy onto a small panel.
- This 20-by-20 centimetre (8x8 inch) spot will reach temperatures of up to 3,000°C (5,432°F).
- The team can use this energy to create clean hydrogen fuel by splitting water into its constituent parts
- The experiment uses as much electricity in four hours as a four-person household would in a year

In doing so, scientists from the German Aerospace Centre, or DLR, will be able to produce the equivalent of 10,000 times the amount of solar radiation that would normally shine on the same sized surface.



DLR project manager, Kai Wieghardt, stands in front of the experimental setup and Xenon arc lamps. The small board he is holding is the target for the large wall of lamps, and will be used to concentrate vast amounts of energy. This energy will be used to create pure hydrogen fuel - an efficient green alternative to modern carbon-based fuels.

“If you went in the room when it was switched on, you'd burn directly,” says Professor Bernard Hoffschmidt, a research director at the DLR, where the experiment is housed in a protective radiation chamber.

The setup is being used to mimic large concentrated solar power plants, which use a field full of adjustable mirrors to focus sunlight into a small incredibly hot area, where it melts salt that is then used to create steam and generate electricity.

More info at

<http://www.dailymail.co.uk/sciencetech/article-4341598/Scientists-switch-artificial-sun-German-lab.html>

In 1871, Simon Ingersoll's steam-powered rock drill is patented and Ingersoll Rock Drill Company is formed. With a history dating back to 1871, Ingersoll Rand and its family of brands represents a proven history in construction and mining, industrial and commercial markets.

Through acquisitions, innovations and customer focus, today's Ingersoll Rand offers market-leading solutions and services that enable customers to create progress through a variety of industries and markets that touch everyday life.



Ingersoll Rand products range from complete compressed air systems, tools and pumps to material and fluid handling systems. The diverse and innovative products, services and solutions enhance their customers' energy efficiency, productivity and operations.



**Club Car**, one of the most respected names in the golf industry, is the world's largest manufacturer of small-wheel, zero-emissions electric vehicles. The company's Precedent® golf cars and Carryall® Turf utility vehicles are integral to successful operations at thousands of courses around the world.

The company also offers a complete line of new and used golf cars, XRT™ utility vehicles and street-legal, low-speed vehicles for personal use, all backed by Club Car's 50+ year legacy of superior design, manufacture and service

**Thermo King** continues to shape the transport temperature control systems industry by providing trusted solutions for truck, trailer, transit, marine and rail customers. They are committed to being the world leader in transport temperature control.





**Trane solutions** optimize indoor environments with a broad portfolio of energy efficient heating, ventilating and air conditioning systems, building and contracting services, parts support and advanced control .

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When you're at home with American Standard Heating & Air Conditioning, you can rest assured that every moment will be backed by high-quality, dependable and affordable heating and air conditioning solutions.

**ARO** provides fluid handling equipment for customers and industries worldwide including chemical, manufacturing, energy, pharmaceutical, mining and more.

Read the complete history at



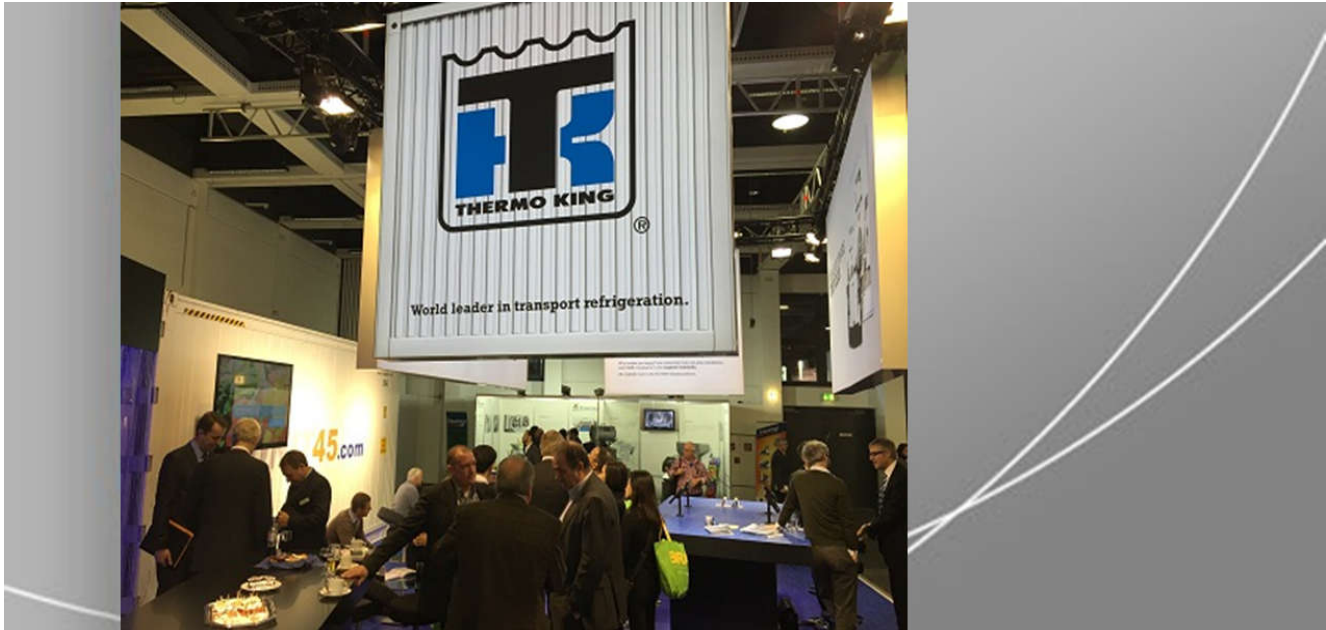
<http://company.ingersollrand.com/ircorp/en/discover-us/our-company/company-history.html>



FORTUNE magazine ranked Ingersoll Rand, a world leader in creating comfortable, sustainable and efficient environments, the No. 1 Industrial Machinery company on their 2015 World's Most Admired Companies list, climbing to the top following a steady rise over the last three years. The company also ranked No. 9 in the Innovativeness category among all list companies, joining Apple, Google, Amazon and Walt Disney in this prestigious key attribute ranking.

## **Innovation at its height- Thermo King Passive Refrigeration Technology Concept**

**With no need for plugging and unplugging,** like in case of a conventional reefer, passive refrigeration technology concept ensures the cargo is transported at the right temperature and humidity conditions to preserve the quality, taste and weight of fresh harvested produce, regardless of the region, time or operator.



Patented by Thermo King, passive refrigeration combines the best of intermodal transportation solutions – the operational simplicity of a dry container with the cooling capacity and functional benefits of a reefer.

**Ingersoll Rand India Private Limited** was founded in Kolkata in 1921, one of the first American investments in India. In 1958 the company opened a branch office in Ahmedabad and in 1963 the head office was shifted to Mumbai. Ingersoll Rand established its first manufacturing plant in Naroda, Ahmedabad in 1965 and in 1977 became a public limited company.

Ingersoll Rand set up its manufacturing facility at Naroda, Ahmedabad in 1965. The facility is ISO 9001 - 2008 certified with a total plot area of over 450,000 sq. ft and built-up area of over 230,000 sq. ft. The Naroda plant is uniquely positioned to cater to manufacturing of small and large reciprocating compressors, centrifugal compressors, rotary compressors and blowers. It is the only plant in the world that produces products with technologies that have been uniquely developed and re-engineered.

The Sahibabad plant manufactures power tools (drills, grinders, impact tools etc.), fluid pumps and material handling products. The plant is equipped with latest CNC machines, with access to our latest global technologies

Ingersoll Rand is in our wish list  
for internships and placements  
for 2018 batch - VeA

### **Careers at Ingersoll Rand**

For available worldwide positions, pl visit <https://ircareers.taleo.net/careersection/2/jobsearch.ftl>

## Safety watch

With the ACT Collection for women, safety is a click away. India's first safety watch for women by Sonata features a unique, first of its kind safety functionality built into the watches, which allow the wearer to instantly notify up to 10 preselected guardians during moments of emergency and panic.

4 Simple Steps to Get You To #ACTNOW: • Download the app • Enable Bluetooth and pair it with your Sonata Act • Register and add up to 10 guardians • Enable your GPS on your phone .

SAFETY WATCH



All you have to do if you find yourself in danger is press the safety button at 8-position twice consecutively – the ACT watch, connected to your phone through Bluetooth, will instantly send your Lat./Long and location on a map to your guardians through an alert. The phone will vibrate letting you know that the alert has been successfully sounded to your guardians.

If you feel that you're safe again and things are back to normal - you can also send out a notification letting your guardians know that you're okay.

About this Product: A piece that is more than just a time-keeper, this analog watch features a white dial with stylised indices at five-minute intervals and is marked by Arabic numerals at the 12th hour marker position. Encompassed in a stainless steel case, the piece has a crown at the 3rd hour marker position to adjust the time.

The watch is accentuated by a safety button at the 8th hour marker position that is just a call away from your guardians, when in times of trouble. Strapped to a navy blue textured leather strap, the watch is secured by a buckle clasp.

The collection marks Sonata's first entry into technology, and the affordable ranges of safety watches is primarily intended for women, offering an effective safety feature that goes hand in hand with daily life.

With the ACT collection by Sonata, you don't have to reject going out and braving the world because of fear.

[http://blog.titan.co.in/sonata-act-time-choose/?cm\\_mmc=nc5-\\_-w-\\_-email-\\_-sonataact-\\_-blog](http://blog.titan.co.in/sonata-act-time-choose/?cm_mmc=nc5-_-w-_-email-_-sonataact-_-blog)

## Amazing Innovation- 14

### Drone catching eagle



In a recent demonstration, the 'Guard From Above' team unleashed a trained eagle in an indoor training facility, where a poor defenseless quadcopter was hovering several meters off the ground. The bird flew straight for the drone, snaffling the frame in its claws and set it down in the corner, all in one smooth motion.

And how does the eagle feel about all of this? Guard From Above says that the talons have scales to protect them when they come into contact with prey, but it has requested the Dutch Organization for Applied Scientific Research to further investigate the potential hazards to the bird's well being.

The pilot project is expected to run for a few months, after which the Dutch Police will decide whether or not to go ahead and deploy a fleet of drone-hunting eagles to keep watch over its skies.

You can see the birds in flight in the Dutch-language video below.

Watch the eagle in action at <https://youtu.be/HifO-ebmE1s>

## Amazing Innovation- 15

### Smart flower solar energy system

The smartflower all-in-one solar energy system gives flower power a literal sense with its botanical-influenced concept.

The 'plug-&-play' home appliance, dubbed the smartflower POP, is a photovoltaic system that takes the form of a flower, with solar panel 'petals' that automatically unfurl when the sun rises in the morning.

The device directs its 18 M2 solar modular fan towards the sun and begins producing electricity to power your hot shower, coffee machine, and breakfast radio.

Thanks to dual-axle sun tracking, the fan moves reliably along with the sun throughout the day which allows the module to produce 40 X more energy than a static solar device.

Inspired by the shape of a sunflower, the smartflower POP produces between 3,400 and 6,200 KWH per year, which completely covers the average electricity consumption of a household in central Europe.



<https://youtu.be/vZuQOUA9rLk>

<http://www.designboom.com/technology/smartflower-solar-device-03-21-2017/>

#### Amazing Innovation- 16

#### From egg shells and tomato skins to tyre..



A typical automobile tire is composed of about 30 percent **carbon black**, which is a filler that adds durability to the rubber. Carbon black is petroleum-based, however, meaning that it isn't entirely eco-friendly to manufacture. That's why Ohio State University scientists led by Katrina Cornish have been experimenting with a "greener" and more readily-available alternative – namely egg shells and tomato skins.

Obtained in the form of food industry waste, the shells and skins are dried and ground into a powder. When that powder is added to rubber, it reportedly makes the rubber stronger while allowing it to remain flexible (by contrast, most other strength-enhancing additives decrease the rubber's flexibility).

This attribute is partially due to the fact that the porous egg shell particles have a large surface area, allowing for greater contact with the rubber, while the tomato skin particles remain highly stable at high temperatures, plus they contain tough fibers.

According to Cornish, the Ohio State technology should serve to make tire production more sustainable, it should reduce American dependence on foreign oil, and it will keep waste from the food industry from ending up in the landfill. The tire rubber created thus far is a sort of reddish-brown, however, so the team is looking into adding black coloring agents.





Alwin Roy,  
AP, Mount Zion College of Engg ,  
Pudukkottai



Arul Nicholas,  
AP, Madha Engineering College,  
Chennai , now Part Time Scholar  
with SSNCE



R.Arul Arasan, after a short  
stint as AP in Loyola Institute  
of technology, is now Full Time  
Scholar at SSNCE



Arun Mani.A  
Teaching fellow at Anna  
University, Tiruchirapalli



Clifford Benjamin Raj  
Engineer Traniee at Cognizant  
Chennai



Karnam Dileep,  
AP- SVCE-  
Sriperumbudur



Gobivel., AP-KCG College of  
Technology, Chennai  
Now Part Time Scholar at SSNCE



Gowri Manohar.R  
AP, SRM University, Chennai



M.Jayabharathi,  
AP, MRK Institute of Technology,  
Mayiladuthurai



Koushik Balaji K  
Programmer analyst at Cognizant  
Chennai



Naveen Kumar SV  
Infosys



RajaDurai.B  
Flextronics



Rajan.P, AP-Agni College of  
Technology, Chennai



Saranarayanan, after a short stint as AP  
in SVCE, now doing Ph.D. At  
University of Southampton



Sathishkumar P  
Analyst at Cognizant  
Chennai



A.Shanmugasundaram  
TVS SriChakra Tyres, Madurai



Sibi Varshan PGP at Danfoss  
Industries Pvt. Ltd  
Chennai



VinayakRam.A,  
Engineer trainee at  
Cognizant Technology  
Solutions,Chennai

**The Score Board**

Out of the first Batch of 18 M.E.Manufacturing,  
8 are in teaching, 5 are in IT, 3 are in Core companies and 2 are doing Full Time Ph.D.  
Of those in teaching, 2 are doing Part time Ph.D. With SSNCE

## Forthcoming events-Hackathon

Alumni Officer  
Arun Prakash writes..



We are glad to inform you that SSN College of Engineering has been selected as one of the twenty six nodal centres across India by the Ministry of HRD/AICTE to organize the Grand Finale Smart India Hackathon 2017. This is a part of Prime Minister Narendra Modi's Digital India initiative.

**The 36-hour Grand Finale is scheduled to be held on April 1 & 2, 2017** simultaneously across all nodal centres. Winners stand to get cash prizes and a chance to be part of the NASSCOM's 10,000 Startups program. A few salient points of the initiative are as below

- Smart India Hackathon 2017 would be the first massive scale hackathon initiative in India; unprecedented in the nation's history
- Mission is to identify new and disruptive digital technology innovations for solving the challenges faced by our country.
- For the first time ever, 29 different government ministries and departments came together and posed 598 problem statements to 30 lakh technical students from India.
- During Smart India Hackathon 2017, for the first time ever 10000+ technical students will be working for 36 hours nonstop to build tools that the nation will benefit from.
- The digital solutions that will be created will improve the functioning and governance of different government departments. There cannot be a better example of using our demographic dividend for building our nation.

The grand finale of the world's biggest Hackathon will be inaugurated by Hon'ble Minister of HRD, Shri. Prakash Javedekar simultaneously across 26 centres. Prime Minister Shri. Narendra Modi will be interacting the contestants via video conferencing during the Hackathon.

It's a great pleasure to invite you to the inauguration of this event at SSN on 1st April, 2017 at 7: 30 am at SSN Auditorium.

58 teams comprising of around 450 students and over 120 industry mentors are participating and solving problem related to Earth Sciences in the grand finale at SSN.

7 teams from SSN are also participating in this National Event.

## Forthcoming events-Workshops / Conferences

Prof. L. Vijayaraghavan, Manufacturing Engg. Section is Superannuating from IIT Madras in a few months time. In order to felicitate , an "International Conference on Manufacturing Technology and Simulation (ICMTS - 2017)" is to be held in Indian Institute of Technology Madras, during 7-8 July 2017. More details at: <http://www.icmts2017.com/index.php>

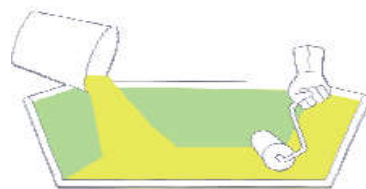
Fourth International Conference on Industrial Engineering( ICIE- 2017) is planned at SVNIT, Surat during December 21-23, 2017, in association with IIIE on the Theme "Digital India, Smart India, Make in India - Innovative Role of Industrial Engineering" Receipt of manuscripts (full paper) : September 15, 2017

The Department of Aerospace Engineering, Indian Institute of Technology Kharagpur, is organizing the VIIth International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM 2017), during the period of 28th - 30th December 2017. Details at [www.ictacem.org](http://www.ictacem.org)

The Department of Mechanical Engineering , SSNCE, is organizing a One-day workshop on **Advanced Combustion Concepts of Internal Combustion Engines** on **06<sup>th</sup> April 2017** .  
Co-ordinators-Dr.S.Rajkumar, Dr.R.Prakash and Mr.B.Jayakishan.

The Department of Mechanical Engineering , SSNCE, is organizing a One day Workshop on "**New approaches in Welding Engineering**", **07.04.2017**. The workshop aims at introducing new approaches and developments happening around the world in the field of welding.  
Coordinators - Dr. S.R.Koteswara Rao, Dr.S. Vijayan, Dr. KL. Harikrishna

The Dept. of Mech. Engg., SSN College of Engineering is organizing a One Day Workshop on "**Fabrication of Polymer Matrix Composites**" on **10th April 2017**. The workshop also includes a Live Demo on PMC fabrication. There is NO registration Fee for the workshop.  
Co-Ordinators- Dr. B. Anand Ronald & Dr. K. Rajkumar



## Research News from MSP

Summer Fellowship for SC/ST students at IISc, Bengaluru

### Eligibility:

SC/ST students studying 1st year M.Sc in science disciplines (Biological, Physical, Chemical and Mathematical Sciences) or 3<sup>rd</sup> year B.E./B.Tech or equivalent degree, during the academic year 2016-17.

**Financial Support:** IISc. will provide:

- Travelling allowance equivalent to 2nd Class sleeper train fare from nearest station of college/residence to IISc. and back.
- Free boarding and lodging (on sharing basis) at IISc.
- Fellowship of Rs.5,000/- and a book grant of Rs.1,500/-

### Features of the Programme:

Selected candidates will work with one of the faculty members of IISc., and learn various techniques used in research for a period of one month during June-July 2016. Last date for submission of filled in application form is **15th April 2017**. WEB: <http://www.iisc.ac.in/events/summer-fellowship-in-science-and-engineering-2017-for-scst-students-only/> and <http://admissions.iisc.ernet.in/summerfellowship/default.aspx>



Dr.Muthu Senthil Pandian  
SSNResearch Centre

## DST - Indo-Norway call for project proposals on Renewable Energy-2017

The following thematic areas are given as examples to be covered by the call:

### - Renewable Energy

- Hydropower
- Wind and Ocean Energy
- Solar Energy
- Bioenergy

### - Energy System

- Grid Integration
- Off-grid energy systems
- Energy storage

### Energy Use and planning

- Smart cities

## Who can apply

Joint proposals must be developed in cooperation between Principal Investigators (PIs) representing an industry company in Norway and an industrial partner in India. Each partner PI must submit separate research proposal from their institution. There should not be more than one contract partner from each country in each project. It is required to have one (or more) research institution(s) as collaborating partner in each country. Commitment for own contribution from the company must be shown in the application. It is not open for participants from other countries than India and Norway.

## Available budget

A budget of up to NOK 8 million (equivalent to INR 6,3 Cr) in total will be available from the RCN. The total budget from the Indian Department of Science and Technology will cover activity matching funding and in-kind contributions subject to max of Rs. 40 Lac per project for a total duration of 3 years for mutually agreed number of projects. Last date for submission of proposals: **24 May 2017**

Website: <http://www.dst.gov.in/callforproposals/indo-norway-call-renewable-energy-2017>

Other Dept Round Up 1 - SSNRC

The other side of SSNRC....

While SSN Research Centre is currently focussing on energy, the whole team's genesis is on Crystal Growth.  
So, what do they do with that skill?



- Prof.P.Ramasamy is the President of Indian Association for Crystal Growth .
- He has an invention in Crystal growth technique, named as SR method -Sankaranarayanan-Ramasamy method.
- Since its publication in 2005, several researchers have used this method -135 papers in refereed journals have cited SR method and 9 projects have been sanctioned based on this method.
- Since 2000, the IACG is also awarding outstanding researchers in Crystal Growth with “**Prof.P.Ramasamy National Award for Crystal Growth**”.
- They also run a monthly Newsletter covering all activities on Crystal Growth that happens anywhere in India, edited by Dr.MutuSenthil Pandian .
- Take a look at the exotic world of Crystals at [http://nct.ac.in/crystalgrowth/images/IACG\\_Issue\\_28\\_2016.pdf](http://nct.ac.in/crystalgrowth/images/IACG_Issue_28_2016.pdf)



- Dr.A.Kavitha, HoD BME, had organized for a Special Lecture on Pediatric Injury Biomechanics, on 28-3-2017.
- She had also invited mech specifically for looking at interactions with the visiting Delegate-Dr.Sriram Balasubramanian Of Drexel University.
- Dr.M.S.Alphin and Dr.K.S.Vijaysekar attended the lecture and interacted with Dr.Sriram.
- Dr.Sriram , being of mech background, has indicated possibilities of further discussions on common areas of research.



Dr. Sriram Balasubramanian, Ph.D. is an Associate Professor in the School of Biomedical Engineering, Science and Health Systems at Drexel University in Philadelphia, US. He is an Adjunct Senior Research Scientist at the Centre for Injury Research and Prevention at The Children's Hospital of Philadelphia. He primarily focuses on developing methods and computational tools to study pediatric skeletal deformities and injuries.

<http://drexel.edu/biomed/faculty/core/BalasubramanianSriram/>

Our Appreciations to Dr.Kavitha, who always ensures mech gets a chance to collaborate Whenever there is an opportunity to do so, with the contacts that BME establishes- VeA



Recently, under the leadership of Dr.S.Radha, the dept of ECE conducted an International conference on WiSPNET- Wireless Communications, Signal Processing and Networking. This is the Second in the series. With more than 500 registrations, six keynote speakers from UK,US,Italy and Jordan, six tracks, eight parallel sessions and six tutorials, **this three day event has grown into the highest budget event in campus**, consistently for the second time, overtaking the Institute level Instincts (Cultural) and Inventa (Technical) festivities. **For sure, this is a benchmark for others to Aspire!**

### Inspiring Life Stories

*Air Commodore Vishal was a Jet Pilot. In a combat mission his fighter plane was destroyed by a missile. He however ejected himself and parachuted safely. He won acclaims and appreciations from many.*

*After five years one day he was sitting with his wife in a restaurant. A man from another table came to him and said "You're Captain Vishal ! You flew jet fighters. You were shot down!"*

*"How in the world did you know that?" asked Vishal.*

*"I packed your parachute," the man smiled and replied.*

Mr. Kishore Babu  
Schwing Stetter



*Vishal gasped in surprise and gratitude and thought if parachute hadn't worked, I wouldn't be here today. Vishal couldn't sleep that night, thinking about that man. He wondered how many times I might have seen him and not even said 'Good morning, how are you?' or anything because, he was a fighter pilot and that person was just a safety worker"*

***Moral of the story: So friends, who is packing your parachute?***

***We need many kinds of parachutes when our plane is shot down – we need the physical parachute, the mental parachute, the emotional parachute, the spiritual parachute & the Financial Parachute. We call on all these supports before reaching safety. Sometimes in the daily challenges that life gives us, we miss what is really important.***

- ***We may fail to say hello, please, or thank you, congratulate someone on something wonderful that has happened to them.***
- ***Give them a compliment, or just do something nice for no reason.***
- ***Recognize the people who pack your parachute.***

**Thanks & Regards –**

**Kishore Babu**

HR – Department, *SCHWING Stetter India Private Limited*



Mr.R.Ramakrishnan

There's A **DIFFERENCE** BETWEEN  
**INTEREST AND COMMITMENT.**

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When you're **INTERESTED** in doing something,  
 you DO IT ONLY WHEN ITS CONVENIENT.

When you're **COMMITTED** to something,  
 you ACCEPT NO EXCUSES;  
**ONLY RESULTS.**

Two guys independently created an objective to swim a mile.

The first guy calculated how many laps he would need to swim in the community pool to complete the mile goal and proceeded to attempt the objective .

The second guy had a friend drive him out in the ocean 1 mile and drop him off and leave him to swim back to shore.

For the first guy , it was a matter of convenience; if he became tired, he could simply get out of the pool.

For the second guy, there was not an option to simply get out. He would have to push through the fatigue, sore muscles to achieve his objective and reach the shore.

When  
 confronted with  
 a challenge,  
 the committed  
 heart will  
 search for a  
 solution. The  
 undecided heart  
 searches for an  
 escape.  
 Andy Andrews  
 - Sayinggoodbye.org

**That is the difference between the commitment and interest.**

- When you are interested in something you fit it into your life when it is convenient and easy.
- When you are truly committed to something, whether it is your career, family , Love or relationship, you set a realistic goal, execute it consistently and never make excuses, even when it is not convenient and many times, challenging and difficult.
- You press on toward the goal and vision you have created.
- **Hope you convert your interest into Commitment,**  
 Regards,  
 Ramki

