Newsletter

Volume 7, Issue 8, August 2017

Mechanical Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 44

Poetry inspires research

Roald Hoffman, who won the Nobel Prize in Chemistry in 1981 (alongwith Kenichi Fukui), was a poet. He shares his views on how poetry and research are interconnected.

"The language of science is a language under stress. Words are being made to describe things that seem indescribable in words - equations, chemical structures and so forth. Words do not, cannot mean all that they stand for, yet they are all we have to describe experience. By being a natural language under tension, the language of science is inherently poetic. "

My first real introduction to poetry came at Columbia from Mark Van Doren, the great teacher and critic whose influence was at its height in the 1950's. Through the years I maintained an interest in literature, particularly German and Russian literature. I began to write poetry in the mid-seventies, but it was only in 1984 that a poem was first published. I own much to a poetry group at Cornell that includes A.R. Ammons, Phyllis Janowitz and David Burak, as well as to Maxine Kumin.

My poems have appeared in many magazines and have been translated into French, Portuguese, Russian and Swedish. My first collection, "The Metamict State", was published by the University of Central Florida Press in 1987, and is now in a second printing. A second collection, "Gaps and Verges", was also published by the University of Central Florida Press, in 1990. Articles on my poetry have appeared in *Literaturnaya Gazeta* and *Studies in American Jewish Literature*. I received the 1988 Pergamon Press Fellowship in Literature at the Djerassi Foundation, Woodside, California, where I was in residence for three years.

It seems obvious to me to use words as best as I can in teaching myself and my coworkers. Some call that research. Or to instruct others in what I've learned myself, in ever-widening circles of audience. Some call that teaching. The words are important in science, as much as we might deny it, as much as we might claim that they just represent some underlying material reality.

It seems equally obvious to me that I should marshal words to try to write poetry. I write poetry to penetrate the world around me, and to comprehend my reactions to it.

Some of the poems are about science, some not. I don't stress the science poems over the others because science is only one part of my life. Yet there are several reasons to welcome more poetry that deals with science.

Around the time of the Industrial Revolution - perhaps in reaction to it, perhaps for other reasons - science and its language left poetry. Nature and the personal became the main playground of the poet. That's too bad for both scientists and poets, but it leaves lots of open ground for those of us who can move between the two.

If one can write poetry about being a lumberjack, why not about being a scientist? It's experience, a way of life. It's exciting.

The language of science is a language under stress. Words are being made to describe things that seem indescribable in words - equations, chemical structures and so forth. Words do not, cannot mean all that they stand for, yet they are all we have to describe experience. By being a natural language under tension, the language of science is inherently poetic. There is metaphor aplenty in science. Emotions emerge shaped as states of matter and more interestingly, matter acts out what goes on in the soul.

One thing is certainly not true: that scientists have some greater insight into the workings of nature than poets. Interestingly, I find that many humanists deep down feel that scientists have such inner knowledge that is barred to them. Perhaps we scientists do, but in such carefully circumscribed pieces of the universe! Poetry soars, all around the tangible, in deep dark, through a world we reveal and make.

It should be said that **building a career in poetry is much harder than in science**. In the *best* chemical journal in the world the **acceptance rate for full articles is 65%**, for communications 35%. In a *routine* literary journal, far from the best, **the acceptance rate for poems is below 5%.**

More info at http://www.roaldhoffmann.com/home

Attention- Theatre Club team

Two famous Plays of Hoffman are Should've and Oxygen

SHOULD'VE
Roald Hoffmann
Synopsis

As "Should've" opens, Friedrich Wertheim, a German-born chemist, has taken his own life, blaming himself for putting an easy way to make a neurotoxin into the hands of terrorists.

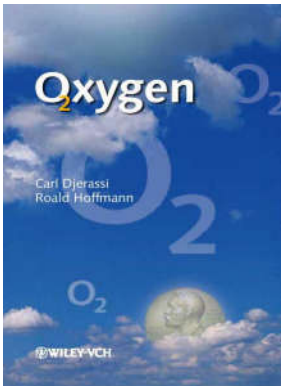
The circumstances and reasons for his death disturb profoundly the lives of three people connected to Wertheim – his daughter Katie (a scientist herself, a molecular biologist, but with very different ideas about the social responsibility of scientists), Katie's lover Stefan (a conceptual artist), and Wertheim's estranged second wife, Julia.

In 29 fast -moving scenes, these people's lives are fractured by the suicide. The motive for Wertheim's action aren't as simple as they seem; there emerges a remarkable set of circumstances about his parents' survival in Nazi Germany. The ethical conflict between Katie and her father is very, very deep. Questions arise on the responsibility of artists in society. And there is more than one skeleton in Stefan's closet.

A play about the social responsibility of scientists and artists on one level, "Should've" is also about three people trying to resist the transforming power of death. They are unable to do so, sundered as they are by the memories and a past that emerges from that death. And, eventually, the consequences shape a different bond among the three. This 69 page text written as screenplay, is free to download at
http://www.roaldhoffmann.com/sites/all/files/Should've%209%20with%20cover%20page.pdf

Oxygen

What is discovery? Why is it so important to be first? These are the questions that trouble the people in this play. "Oxygen" alternates between 1777 and 2001—the Centenary of the Nobel Prize—when the Nobel Foundation decides to inaugurate a "Retro-Nobel" Award for those great discoveries that preceded the establishment of the Nobel Prizes one hundred years before. The Foundation thinks this will be easy, that the Nobel Committee can reach back to a period when science was done for science's sake, when discovery was simple, pure, and unalloyed by controversy, priority claims, and hype….



The ethical issues around priority and discovery at the heart of this play are as timely today as they were in 1777.

As are the ironies of revolutions: Lavoisier, the chemical revolutionary, is a political conservative, who loses his life in the Jacobin terror.

Priestley, the political radical who is hounded out of England for his support of the French revolution, is a chemical conservative.

And Scheele just wants to run his pharmacy in Köping, and do chemical experiments in his spare time.

For a long time, he—the first man on earth to make oxygen in the laboratory—got least credit for it.

Will that situation be repaired 230 years after his discovery?

This 103 page text , written in screen play format, is available for free download at

http://www.roaldhoffmann.com/sites/all/files/OX-15.pdf

Info to Alumni- Campus Update

Message from Principal, Dr.S.Salivahanan

We are happy to inform that our college has obtained NAAC accreditation with Grade A+ and CGPA of 3.55. Only five institutions in India have been accredited with A++ since 01-07-2016.

Congratulations to all who have made it happen.

Message from Dr.Chandy, Innovation Centre

A senior team from ASSOCHAM visited the SSN campus on 25th July to conduct an awareness programme on 'Intellectual Property Rights (IPR)'. This unique three hour programme on IPR was a wonderful opportunity for all the faculty, research scholars and students to get a better understanding while filing patents.

Message from Dr.A.Rajalakshmi, HoD Physics

On behalf of department of Physics, the National conference on Emerging Trends in Envirnomental Research , (NCETER-17) was organized on 22-07-17

Info to Alumni- Campus Update

Graduation Day

The Seventeenth Graduation Day of our college was held at 11.00 a.m. on Sunday the 16th July 2017 at SSN campus.

Ms. SUPRIYA SULE, M.P., an Educationist was the Chief Guest of the function.

Madam Supria Sule, daughter of Shri Sarad Pawar, is a B.Sc, in Microbiology and has done Water Management course abroad. She has accounted for how she spent the MP fund, in her website. With the highest attendance and largest number of questions raised, she has been discharging her duties as MP, perfectly . She has a humble vision of working for the disadvantaged people. Get to know more about her vision at http://www.supriyassule.com/en/about-me/my-vision-and-mission.html

This write up is an “on-stage notes” of her address to our graduating students-VeA

I have great pride in being here. You are at a very interesting stage of life. No one would ever want to leave college, because college period is the best years of one's life. While in college, you aspire for so many things in life; later you need to check on whether you have achieved your aspirations.

I know you are all here after about one year. You don't want a long speech.When we do good things, it is appreciated- like the appreciation for my high attendance in Parliament. I am worried about the days that I could not attend. We represent 20 lakh people. We need to do our work right. Whatever you do, do it with pride.

- For all of us, Country comes first.
- Engineering is all about Innovation and Change. You can change India.
- For you, everything is instant. What I feel sad is that you are not engaging with who is in front of you as much as you consider people far away.
- Technology has both positive and negative points. Technology must improve life- it must not make life harder.
- Technology makes everything transparent and everyone accountable. When technology provides data, that brings in more opportunities to question. Questions bring in care and accountability.
- South of India is rich in Culture, heritage, history and food. Simple foods like Idli and Dosa are giving a run for money for multinationals like KFC, in airports around the world. Simplicity is what you should nurture.
- Technology has made the world smaller. The hall we are today, is of international standard. In addition to such infrastructure , you need great teachers. SSN has provided you that also. Your admission marks are very high-all of you must be true geniuses. In spite of all these, you cannot succeed without hard work.
- There is no short cut to success. Humility and hard work is True Tamil Culture. Maintain it. You may become a Super Achiever one day.
- Many of you are first generation learners. Worship God, family, Teacher, and have a good value system. Think Big and Build the nation.
- Change and impact at least one life. This impact need not be with money alone. You could teach maths to someone who finds it difficult. You can be a scribe for an exam and help vision impaired to take up exams. You could donate your books to the needy. Do what you can.
- Since we come from a diverse culture, adjusting and adapting to changes is easy for us and so we can prosper in any part of the world.
- Research needs to improve. Some of you must become Teachers. We need autonomy even for individual students.
- Management must take feedback from students and give us information on how we can change. Together, we can do a lot of exchange programs with Maharashtra and move towards a G8 nation.
- Let us make India proud.
- Let us make our Institution proud.
- Let us make our family proud.

Alumni Officer Arun Prakash writes..

- 875 -UG, 197 - M.E. / M.TECH, 89- MCA and 105- MBA (a total of 1266) students graduated with flying colors.

- In 2016 three students from the undergraduate programs received Gold medals for obtaining University first ranks. They were Sanjana Sahayaraj for Computer Science, Varsha S from Electronics and Communications, Jyostna for Chemical Engineering. Three students from the Post Graduate programs also received gold medals for university first ranks.In the year 2015 – 2016, The Management honored the rank holders with Chairman's Gold and Silver Medals and Certificates.

- In 2016, close to 84 top notch companies visited the campus and rolled out around 1555 offers to SSN students. The prominent companies that visited the campus included Amazon, SAP labs, Global analytics, Dow chemicals, L&T, MuSigma, CTS, Infosys, Accenture , TCS, HCL, and Wipro.

External Recognition - 1

Arivazhagan

Tamilnadu Science Forum organized their 6th book festival at Hosur on 15-07-2017 . In that function, C.Arivazhagan of Final Year Mech, was awarded " படைப்பாளி விருது 2017" by MP Mr.Trichy Siva

External Recognition - 2

T.S.Murali writes..

I am happy to inform you that my team comprising myself, Sowmya Kumar and Nirmal Kumar has been **selected at Techniche, (a tech expo at IIT Guwahati) for Round 2** of the project showcasing event where we will be guided and also compete for cash prizes worth Rs. 3.5 Lakh.

The event is scheduled for September 1-3, 2017.

Our project is on "Design and development of a Magnetic based apparatus to prevent all collision related injuries in automobiles."

The idea is to study whiplash related injuries and to arrive at suitable solutions to avoid the same. A study of accidents shows that this type of injury is not yet addressed in full. The team hopes to solve this issue

Feedback on a workshop conducted by
Dr.K.S.Vijaysekar and Dr.S.Sureshkumar

Hello Sir,
This is Ashvin from K.C.G College, attended the one day workshop on FEA at SSN. I received A grade in the subject sir, thank you so much for brushing up the topic and make me think FEA was not a difficult subject and make me gain interest on the subject. Waiting for any other one day workshop this semester. Thank you once again sir, also inform the other faculty who was part of the workshop.

External Recognition - 3

External Recognition - 4

Dr. R. Damodaram, Associate Professor, was invited to reviewed a journal paper - Titled - “An investigation on the hardness and corrosion behavior of MWCNT/Mg composites and grain refined Mg” for the Journal of Magnesium and Magnesium alloys-published by Elsevier.

Programs Attended

Under the guidance of Dr.R.Prakash, Associate Professor, SAEINDIA SSN CE Collegiate Club team "PRECISIO” participated in the ISIE (Imperial Society of Innovative Engineers) organised Pre - Virtual Round of HVC18 (Hybrid Vehicle Challenge) at SRM University.(15 to 17 July 2017)
Under the guidance of Dr.R.Prakash, Associate Professor, SAEINDIA SSN CE Collegiate Club team "PRECISIO" participated in SAEINDIA organised SUPRA SAEINDIA student Formula 2017 at Buddh International Circuit, Greater Noida. (26-6-2017 to 1-7-2017)

Dr.K.S.Vijay Sekar, Associate Professor, attended a DC meeting for K. Gobivel, a PhD research scholar of Anna University, as Joint Supervisor, at KCG College of Technology, Chennai.(27-7-2017)

Dr.L.Poovazhagan, Assoc.Prof./Mech., attended comprehensive DC meeting of Mr.G.Swaminathan, who is doing part time Ph.D at Bharat university under the guidance of Dr.S.Sathiyamurthy. .(27-7-2017)

Dr.L.Poovazhagan, Assoc.Prof./Mech., attended first DC meeting of Mr.Rajkumar, who is doing part time Ph.D at Sakthi college of engineering and technology-Coimbatore (affiliated to Anna University) under the guidance of Dr.Mohamed Bag.(28-7-2017)

Programs Conducted

Dr. S. Soma Sundaram, Associate Professor, conducted a one day hands on training class in ANSYS-FLUENT for a batch of final year students.(8-7-2017)

Dr. N. Lakshmi Narasimhan and Dr. S. Soma Sundaram, conducted a workshop on Autodesk Design Now, on 25.07.2017

DC meetings conducted

First DC meeting of PhD Scholar Mr. Mariyappan, Asst. Prof., St. Joesph's College of Engg. was convened by his Supervisor Dr. A. S. Ramana on 8th July 2017

DC meeting of Mr. R.Venkatesh, PhD Research Scholar Under the supervision of Dr. A S Ramana was conducted on 27.7.17.

Dr.L.Poovazhagan, Assoc.Prof./Mechanical, convened first DC meeting for his part time research scholar Mr.C.Gopinath, Assistant Professor, working in St.Joseph College of Engineering, Sriperumbudur. The meeting was conducted on 12.07.2017 with DC members from Anna University (Dr.Gnanavelbabu) and SRM University (Dr.Rajasekaran).

Dr.L.Poovazhagan, Assoc.Prof./Mech., convened first DC meeting for his part time research scholar Mr.K.Parthiban working as an assistant professor in AKT Memorial College of Engineering and Technology, Kallakurichi on 14.07.2017. DC members are Dr.K.Rajkumar/SSNCE and Dr M.A.Sai Balaji/B.S.Abdul Rahman University

Prof.N.Nallusamy conducted DC meeting for his part time Research Scholar , Mr.V.Venkatesan, on 17-7-2017

Dr. Kl. Harikrishna Associate Professor and Dr.S.R.Koteswara Rao, Professor conducted First DC meeting for the research scholar
Mr. N.Sivashanmugam (17-7-2017)

Dr.S.R.Koteswara Rao, conducted Confirmation DC meeting for his Research scholar Mr Basha , on 20-7-2107

Dr M S Alphin, Associate Professor, Convened Doctoral Committee Meeting for Full time PhD Scholar Mr D Velmurugan for Confirmation for his research, on 22nd July, 2017. Dr Rajmohan, Anna University and Dr Baranidaran VIT University Vellore were present for the meeting.

Dr.G.Selvakumar conducted Synopsis DC meeting for his Ph.D. (part-time) scholar Mr. K. Bravilin Jiju (Registration no. 1414289769) on 22 July 2017.

Guest Lectures Organized

Dr.M.Nalla Mohamed and Dr.Ananthapadmanaban jointly organized the guest lecture on 10/07/17.The topic of the lecture was 'Advances in Nano Materials ' delivered by Dr.Ganapathiraman Ramanath, Professor,Dept of Materials Engineering, Rensaeller Polytechnic Institute,New York

Dr.M.Nalla Mohamed and Dr.Ananthapadmanaban jointly organized the guest lecture on 12/07/17.The topic of the lecture was 'Latest advances in Material Sciences ' delivered by Dr.V.Sundar, Dental Material Corporation , USA

Dr M S Alphin, Dr M Nalla Mohammed and G Selvakumar, Associate Professor, arranged a Guest lecture for beyond the syllabus Exposure for the subjects Computer Aided Design and Computer Aided Product Design. SANKO R and D team explained on Product Development and Surface modelling as per real industrial scenario. (18-7-2017)

Dr.M.Nalla Mohamed, Dr.G.Satheesh kumar and Dr.Hari krishna jointly organized the guest lecture on 20.07.17. the lecture was delivered by Ms.Jennifer David, doctoral student in an EU project Cargo-ANTs, Halmstad University,Sweden on the topic "multiple vehicle path planning for fleet management system"

Papers and Publications

Dr M S Alphin, Associate Professor, Published a paper “Dental implant materials, implant design, and role of FEA- A brief review.J. Evolution Med. Dent. Sci. 2017;6(44):3487-3492, DOI: 10.14260/Jemds/2017/753. Coauthors: Velmurugan D, Alphin M S, SarateSG (Thomson reuter ex.)

Dr. B. Anand Ronald, Assoc. Prof. presented a paper entitled "Influence of Quenching Medium on the Microstructure and Hardness of Magnesium Matrix Hybrid Composites" in the International Conference on Manufacturing Technology and Simulation - ICMTS 2017" held at IIT Madras, Chennai. It was co-authored by S. Arokiasamy (7 to 8 July, 2017)

Mr. C. Arun Prakash, Assistant Prof, Presented a paper “Influence of Mould material on heat transfer during casting” at International Conference on Manufacturing Technology and Simulation – ICMTS 2017, IIT Madras. (7 to 8 July, 2017)

R.Vimal, Assistant Professor/Mechanical and students Visveshwar Nagarajan/ Vignesh Kumar Mechanical Engineering Students Published a paper titled " Artificial Intelligence Modelling and Analysis of Pivotal Parameters in Drilling Hybrid Fiber Composite (HFC) - in the Journal of FME Transactions (2017) 45, 641-646, indexed in Scopus (SNIP: 0.6)

Dr. G. Satheesh Kumar, Associate Professor is presenting a paper in the 5th International Conference on Artificial Intelligence, Computer Science & Information Technology to be held in Malaysia on 31.07.2017 & 1.8.2017

Dr.M.Nalla Mohamed published a paper along with A.Praveen kumar, Ph.D research scholar entitled 'A comparative analysis on tensile strength of dry and moisture absorbed hybrid kenaf/glass polymer composites' in 'Journal of Industrial Textiles(SAGE journals publication)- Thompson Reuters IF: 1.75), Anna University Annexure -1 journal. (details in Faculty write up section)

A paper by Nalla Mohamed, and one professor from SASTRA university, titled ‘Experimental investigation and optimization of AWJ cutting parameters for the improvement of cut quality in CFRP laminates’ has been accepted for publication in Journal of Industrial Textiles(SAGE journals publication)- *Thompson Reuters IF: 1.75), Anna University Annexure -1 journal.*

Project Proposals in July 2017

1

Dr.L.Poovazhagan, Assoc.Prof./Mech., alongwith Dr.K.Rajkumar as Co-PI, submitted a project proposal to DST-SERB (EMR) on Accumulated Roll Bonding, for a value of Rs.29.16 Lakhs. (17.07.17.).

2

Dr. S. Soma Sundaram, Associate Professor, submitted a proposal titled "Numerical Investigation on implementation of Chevrons on burner head" for Early Career Research (ECR) scheme. (Rs.18 lakhs)

3

Dr. N. Nallusamy, Professor, alongwith Mr. B. Jayakishan, Asst. Prof, as Co-PI, submitted a project proposal titled "Reactivity Controlled Ignition Studies of Recycled Oxidised Paint Waste Oils Using Open Loop Control in a VCR Engine" to DST-SERB under Extra Mural Research For a budget of Rs.34.78 Lkahs (28-7-2107)

4

Dr. S. Rajkumar, Associate Professor and Dr. R. Prakash (Co – PI), Associate Professor submitted a project proposal on “Multi-zone phenomenological modeling and experimental investigations of NOx mitigation techniques on biodiesel fuelled compression ignition engines” to DST - SERB (Extra Mural Research Funding) for Rs. 36.58 Lakhs on 28.07.2017.

5 Dr. S. Suresh Kumar and Dr. R. Damodaram has submitted a project proposal titled “Effect of Heat Treatment Conditions on Impact Fracture Behaviour of 17- 4 PH Stainless Steel Plates” to ISRO (Respond scheme). The project cost is Rs. 24, 95,000.

6 Dr. S. Suresh Kumar and Dr. A. K. Lakshminarayan has submitted a project proposal titled “Impact Fracture Characteristics of Magnesium (AZ31B) Welded joints and Metal Foams for Light Weight Armour Applications” to DST (SERB-EMR scheme). The project cost is Rs. 28, 53,150.

Student Activities

- Chidambaram. A, of second yr, Visited the Indian Red Cross Society as a part of social awareness (21-7-2017)
- Suraj R, of third yr, did an internship at RENAULT NISSAN AUTOMOTIVE INDIA PRIVATE LIMITED from 29.05.2017-14.07.2017
- Manickavel M, of third yr, as a student ambassador, through NSS , organised a four day Voter ID Registration camp in our campus (17.07.17 to 20.07.17)
- G.Sailalitha of final yr, presented a paper at ISSS Conference at IISc Bangalore (4-7-2017 to 7-7-2017)
- Nishant P Shah, of final yr, Conducted a Data analytics workshop in the department on microsoft excel (24-7-2107)
- Bharatharajan S, of final yr, was awarded a Summer Internship at IIT Madras under Dr.P.Ramkumar to study the tribological properties of Cu MMC brake pads (by using statistical methods to model wear). (5-6-2017 to 31-7-2017)
- Akshay Aravindan, of final yr, was a recipient of the IITM- Summer Research Fellowship and worked in the Applied mechanics department of IIT Madras on edge based approach to conventional FEM (5-6-2017 to 31-7-2017)

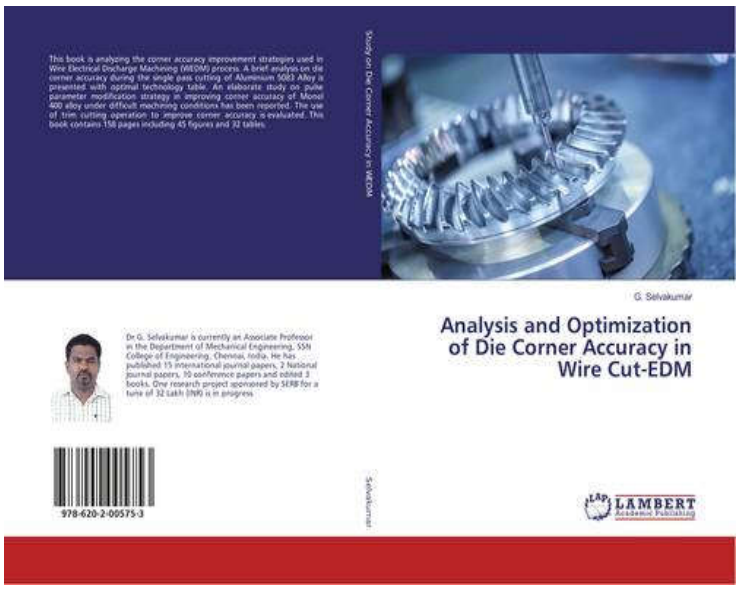
JRF Info

Mr. B. Bhadru has joined as JRF in a external funded project under Dr. R. Damodaram.
He completed his B. Tech (Mechanical Engineering) from JNT University, Hyderabad in 2013.
He completed his M.E (Design for manufacturing) from JNT University, Hyderabad in 2015 .

He has worked as assistant professor in the department of mechanical engineering, Swarna Bharathi Institute of Technology and Science from 31.06-2016 to 18-7-2017. Before that he has worked as assistant professor in the department of mechanical engineering, Khammam Institute of Technology and Science from 07-07-2015 to 30-06-2016.

He was teaching Engineering Mechanics, Dynamics of Machinery, Finite Element Method, Fluid Mechanics and Hydraulics**.** His area of interest includes Engineering Mechanics, Manufacturing Technology and Material Science. He has published two international journal papers.

Book Published



Dr.G.Selvakumar's book titled
' Analysis and optimization of Die corner accuracy in wire cut - EDM'
has been published (ISBN: 978-620-2-00575-3)

Faculty Write up - 1

International Conference on Manufacturing Technology and Simulation (ICMTS 2017)

Venue: IIT Madras, 07, 08 July 2017

Dr. B. Anand Ronald, presented a paper titled , “Influence of Quenching Medium on the Microstructure Dr. B. Anand Ronald, presented a paper titled , “Influence of Quenching Medium on the MicrostructureandHardness of Magnesium Matrix Hybrid Composite” in the poster session in the International Conference on Manufacturing Technology and Simulation. Visitors to the poster included Research Scholars & Faculty of IITM and other external participants. The co-author is S. Arokiasamy.

He was also invited to be a Session chair, along with Dr. Amitava Ghosh, (Assoc. Prof/ Mech, IITM) as Co-chair.
7 papers were presented in that session

Faculty Write up – 2

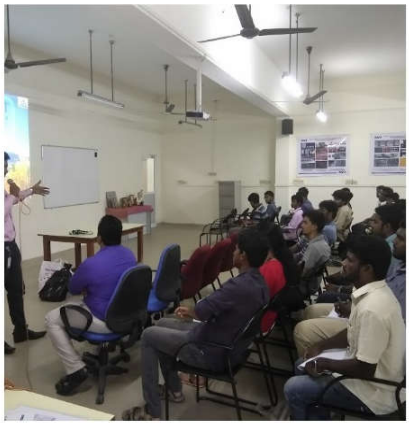
This is part of our Basics Learning program, successfully being subscribed by many students. This is the first step to building a car, which most of our students take up in Third year. Prakash and Nallusamy repeat this with improved fervour, every year.-VeA

Automotive Training programme was conducted on 21 and 22 July 2017 for second year Mechanical Engineering students. Thirty students from A section and twenty seven students from B Section participated in the practical training programme. The trainer explained the functions of various components of two wheeler bike engines, working of two stroke and four stroke engines and gear mechanism through video lecture. Then the students were given hands on training on dismantling and assembling of bike engines by the trainer and technicians.

Faculty Write up – 3

Beyond Syllabus Training

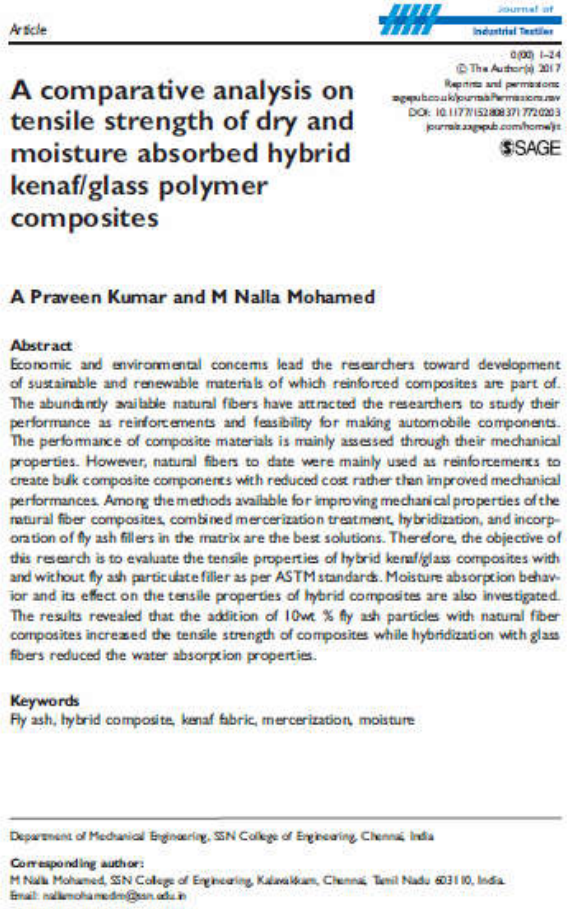
R and D team Headed by Mr. Manikandan from SANKO CO.,LTD. (Japanese company) gave a exposure on Product development and surface modelling in real time industrial projects to III year Mechanical Engineering and ME Manufacturing Engineering Students on 18 July 2017. This is Beyond Syllabus training for Computer Aided Design (UG) and Computer Aided Product Design.(PG)



Faculty Write up – 4

Journal paper in high impact factor Journal

I am happy to inform you that our paper (myself, Praveen kumar, Ph.D scholar) titled **A comparative analysis on tensile strength of dry and moisture absorbed hybrid kenaf/glass polymer composites** has been published in **Journal of Industrial Textiles(SAGE journals publication)- *Thompson Reuters IF: 1.75), Anna University Annexure -1 journal.***



Article

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SAGE

A comparative analysis on tensile strength of dry and moisture absorbed hybrid kenaf/glass polymer composites

A Praveen Kumar and M Nalla Mohamed

Abstract

Economic and environmental concerns lead the researchers toward development of sustainable and renewable materials of which reinforced composites are part of. The abundantly available natural fibers have attracted the researchers to study their performance as reinforcements and feasibility for making automobile components. The performance of composite materials is mainly assessed through their mechanical properties. However, natural fibers to date were mainly used as reinforcements to create bulk composite components with reduced cost rather than improved mechanical performances. Among the methods available for improving mechanical properties of the natural fiber composites, combined mercerization treatment, hybridization, and incorporation of fly ash fillers in the matrix are the best solutions. Therefore, the objective of this research is to evaluate the tensile properties of hybrid kenaf/glass composites with and without fly ash particulate filler as per ASTM standards. Moisture absorption behavior and its effect on the tensile properties of hybrid composites are also investigated. The results revealed that the addition of 10wt % fly ash particles with natural fiber composites increased the tensile strength of composites while hybridization with glass fibers reduced the water absorption properties.

Keywords

Fly ash, hybrid composite, kenaf fabric, mercerization, moisture

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journals.sagepub.com/home/jit

Dr.M.NallaMohamed

Praveen Kumar

Faculty Write up – 5

Invited Talk at CII webinar..

I was invited to present a webinar on "**An eco-friendly and energy efficient welding process for high quality welds"** at Confederation of Indian Industry, Chennai on 12th July 2017.

This presentation was about a relatively new solid state joining process called as Friction stir welding (FSW).

Due to the absence of parent metal melting, the relatively new FSW process is observed to offer several advantages over fusion welding. Though this process is widely adopted by many industries in western countries, it is still an unknown welding process for the Indian industries.

At SSN we have been doing lot of research activity on FSW of various materials like aluminium, magnesium, copper, steel and many incompatible dissimilar metals.

This was a great opportunity to share my experience and create awareness among many industries like Caterpillar, Ford, Murugappa group etc., who actively participated in this Webinar. My sincere thanks to Mr.Anbu Chezhian and Mr. R.Kannan, of Manufacturing Panel of CII for providing me this opportunity.

Faculty Write up – 6

DC meeting Info

Doctoral Committee meeting of Mr D Velmurugan was convened on 22 July 2017 by Dr M S Alphin after the first seminar of the PhD scholar. Dr Rajmohan, Associate Professor, Anna University, Chennai and Dr R Baranidharan, Associate Professor , VIT University were external members for the meeting

Faculty Write up – 7

Autodesk *Design Now* Workshop

Organized Jointly by
Autodesk, Bangalore and Department of Mechanical Engineering, SSNCE
25.07.2017

Dr.N.Lakshmi Narasimhan writes..

As we are aware that Autodesk is a global leader and pioneer in design and modeling softwares for applications 360 degrees in all spheres of science, Engineering and Technology, it is heartening to state that the company has come forward to encourage the student community at large through organizing various events such as design challenges, workshops, etc., at national and global levels. It is a pleasure to mention that the department of Mechanical Engineering in association with Autodesk, Bangalore organized a one day Workshop titled *Autodesk Design Now* on 25.07.2017 for the students of Mechanical Engineering.

Dr. Ramesh Pudale, Account Manager – MFG Autodesk Education Experiences and Team members Mr. Sagar (Technical Lead) and Karthik both from KKM Soft Pvt. Ltd. (Collaborators of Autodesk, Chennai) handled the entire session. The objective was to introduce students about the Modelling and Design using Autodesk *Fusion 360* software. It is to be noted that Autodesk Fusion 360 is a much sought after modeling and design software by the industries worldwide. Autodesk was kind enough to provide for free, 3 year licensed version of *Fusion 360* software to all those interested students of our institution.

A two hour intensive *hands on session* on *Fusion 360* software was given to all the 50 participants at our CAD lab as part of the workshop. All the students were given the link individually by Autodesk to download and install the software well in advance (two days before the workshop). The students were encouraged to participate in a Global Design Challenge on the theme – *Design for Medical Innovation* organized by Autodesk, USA.

Dr. Ramesh gave clarity on the upcoming innovation contest and details regarding uploading of the design made using Fusion 360 software. The due date for the Design challenge was 28.07.2017 that was just only 3 days away from the date of our workshop. In spite of the short duration given, the students with a great interest formed teams consisting of 2-4 members and were able to successfully learn the software and also submit their designs on time. The designs submitted covered different products suited for medical applications.

Autodesk , jointly with mentors from our department, has proposed to evaluate all the designs submitted and had announced a cash award of Rs. 3000/- each to the best three designs. The three teams shall be encouraged to participate as well in the forthcoming Innovation contest organized by Autodesk at a national level.

- As a gesture, Dr. Ramesh and his team presented the same contents to our students of Biomedical Engineering too during the AN session of the workshop as the theme of the innovation contest was relevant to their department as well.
- As a mark of appreciation and encouragement, Certificates and Caps were presented by Autodesk to all those who had submitted their designs online on or before the due date of the design challenge.
- The coordinators Dr. N. Lakshmi Narasimhan and Dr. S. Somasundaram would like to thank Dr. K.S. Vijaysekar and Mr. Giri for the support extended during the workshop. Our sincere thanks to the Department, Institution and other teaching and non-teaching members of the department for the kind support and smooth conduct of the programme.
- Our thanks are due to Autodesk and special thanks are extended to Dr. Ramesh Pudale, Mr. Sagar and Mr. Karthik. Overall the programme was felt very useful by the students.
- Our second year students have placed a special request for organizing exclusively a similar workshop for them in the near future. It is hoped that our interaction with Autodesk shall be long lasting honing the innovation, creativity and technical skills of our beloved students.

Faculty Write up – 8

Guest lecture 1

A guest lecture was arranged by Dr.M.Nalla Mohamed and Dr.Ananthapadmanaban on 10/07/17.The topic of the lecture was-**Recent advances in Nanomaterials**. The speaker, Dr.Ramanath,who is a world renowned authority of nanomaterials with around 7800 citations, explained the basics of nanomaterials for the benefit of II Year students.

- Generally, there is a feeling that Nano is in the domain of theoretical work, but Dr.Ramanath and his team have found many practical applications of nanomaterials, which includes Nanoglue which his team has patented.
- The possibility of joining vastly dissimilar materials with the help of nanomaterials was brought out in the lecture.
- The III Semester M.E Students also attended and they learnt something about nanomaterials beyond their regular syllabus.
- The possibility of Ashtabandanam, which glues deities on their seats during temple Kumbabishekam was discussed with the students. The lecture was very interactive and well received by the students.

Guest lecture 2

Dr. Veeraraghavan Sundar,
Manager, Emerging Products at UES, Dayton, USA
He is a Ph.D in Materials and holds an MBA, both from Penn State University

- A guest lecture was arranged for III Year students by Dr.Nalla Mohamed and Dr.Ananthapadmanaban on 12/07/17.The topic of the lecture was-**Advanced Microscopic techniques and dental materials**.
- Dr.Sundar, who is a Ph.D and M.B.A from Pennsylvnia State University talked about a product which he is using for Microstructural characterization.
- The product which is an improved image analyzer, cuts 150 thin samples from top to bottom of any specimen.It analyzes the samples for defects and inclusions. It also makes a 3D image of the sample, clearly showing different zones in the sample.
- Defect analysis in friction stir welds has been done by his company ,which is named UES and based in Dayton, Ohio.
- The guest speaker was kind enough to suggest joint research work between his company and Mechanical Department, SSN College of Engineering. Our students and staff could send their samples for advanced microscopic analysis.

Guest lecture 3

A guest lecture was arranged by Dr.M.Nalla Mohamed and Dr.G.Satheesh kumar on 20/07/17.
The topic of the lecture was **Multiple vehicle path planning for fleet management system** delivered by Ms. Jennifer David.

In our pursuit to identify a candidate for beyond syllabus coverage for the subject Robotics for Final year students this semester, Ms. Jennifer David stood out with her vast but latest experience in high profile institutes of relevance. She joined Halmstad University in 2014 as a doctoral student to work with an EU project Cargo-ANTs after her M.S at IITM. She even had a short term exchange visit to MIT in 2015 and worked with Interactive Robotics Group, CSAIL, MIT. She also had research visit to CSIC IRI, Spain and Lund University, Sweden.

Jennifer David spoke on the **Current trends and impact of Robotics and AI on the lives of people** in developed countries, quoting major examples from Sweden. Her presentation was ably supported by video evidences and apt anecdotes from her own research experiences. She also graciously mixed her experiences on and off the research track to make the lecture interesting for the attendees. Majority of the students were from our department and a few from ECE were also benefitted from the interaction. The question answer session at the end was even more interactive with questions ranging from professional ethics to opportunities for internship at her institute. Enough exposure was given to her institute and to the country to throw light upon opportunities that were available for the students.

Student write up – 1

Data Analytics Workshop by students

K.Rajagopal of Final year reports o the recent Data Analytics workshop conducted by Nishanth P Shah, a Final year student, on 24-7-2017

Nishanth P Shah, Final year Course instructor

With the increasing importance of computer in the day to day life, the same is reciprocated multi-fold in industries. The growing importance and significance of the role played by computers in our life, have had made it a necessity to have a working understanding of data analysis.

Data analysis is the process of manipulating, storing and inspecting data's to derive a conclusion, help in decision-making and discover useful information. The workshop, was organized by the AME and instructed by Nishant P Shah, is to provide an introduction to data analysis. This was the first workshop to be conducted by a fellow student and it was to provide a hands-on experience for the participants.

The workshop began at 12 p.m. at the seminar hall in Mechanical department, with a brief insight into data analysis by Mr. Vimal Samsingh followed by the importance of the same in companies in the present day by the former President of AME, Mr Vishveshwar. The course plan was a perfect paradigm of a three-part plan. Starting the course with the discussion of the evolution of the various data analysis software's and their specific advantages and disadvantages. Then dividing the content of the workshop into three major topics- Charts, Tables and Pivot Tables.

Prior to the workshop, all participants were provided with model data files for which analysis is to be done. The first session covered the creation and manipulation of charts, it also covered the various features of Charts along with providing useful shortcuts. The second session concentrated on the creation, understanding, necessity and manipulation of Tables. There was a small snack break after the second session. The third session concentrated on the Pivot Tables, which is used to analyze a small portion of an entire table, which covered all the fundamentals of Pivot Tables.

In each of these sessions, demonstrations were provided with the model files and the participants practiced it individually, raising queries whenever they didn't understand. The workshop then concluded with a talk from our HoD, about various opportunities to utilize data analytics in college to support the staff and gain experience. The participants received a certificate of participation from Mr. Vimal Samsingh.

The participants then were divided into groups of two and participated in a quiz, in which Santhosh Kumar D and Suganthan S secured the first place and Srivathsan K and Vijay S secured the second place.

The workshop was elegantly planned to a dot and moved from one part to another very smoothly.

Student write up – 2

The team members consisting of around 17 members from the Mechanical Engineering Department and 3 members from the EEE Department attended the workshop at SRM KTR.

Here, we were informed of the design methodology and thinking strategies for going about building a hybrid vehicle.

We have registered for the Hybrid vehicle competition and as part of the competition we were offered training.

Being an interactive session, we were taught on designing the chassis, choice of Power Train Transmission, modes of coupling the two trains and integrating the IC and electric engine for maximum torque and speed conditions. The workshop as a whole opened our minds to a variety of design possibilities and also the alternative methodologies that can be applied in going about designing, manufacturing and testing the car.

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With regards, Murali T.S., III year, Mech A
Hybrid Vehicle Team Lead Coordinator

Details about the Competition …..

Student formula Hybrid & Students Formula-E

ISIE-Hybrid vehicle challenge is the Asia's largest vehicle challenge for the engineering/diploma students. HVC is growing every year to promote utilities, innovation and technology development. HVC gives opportunity to students for placements, research and engineering skill development. This will help them face real-world engineering design projects and other related challenges. Our focus to develop interest among the engineering student towards alternative power sources, those which are the future of Automobiles.

Students Formula-E

The objective of the competition is to design and fabricate an electrical vehicle under ISIE Design restriction so as to give the chance to students to demonstrate and prove their creativity and their engineering skills in comparison to teams from other universities or colleges around the Asia.

Student Formula Hybrid

The objective of the competition is to design and fabricate a hybrid Vehicle or an electrical vehicle under ISIE Design restriction so as to give the chance to students to demonstrate and prove their creativity and their engineering skills in comparison to teams from other universities or colleges around the Asia.

Student write up – 3

Conference presentation Info

Hi! I am G. Sailalitha from 4th year mechanical B section. Recently my research paper was accepted for oral presentation in the 8th ISSS International Conference on Smart Materials Structures & Systems (ISSS 2017) held at IISc Banglore between 5-7 July 2017.
To give a little backstory on this conference – it is conducted by the Institute of Smart materials from Karnataka.

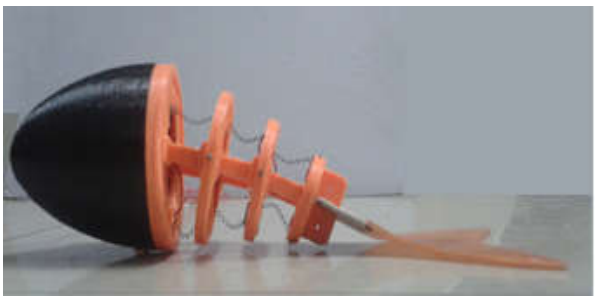
There were 72 papers presented and 12 plenary talks. My paper was titled "Design and Development of Autonomous Underwater Carangiform fish using Shape memory springs as actuators". This was the research project on which I worked during my internship at IIT Indore during the guidance of Dr. I. A. Palani (IIT-I) and Dr. G. Satheesh Kumar (SSNCE).

This paper focussed on compliant mechanism and development of circuitry for the system. I conducted studies on the thrust capacity, designed the model and then went for fabrication. After which theoretical studies were compared with experimental results and the system's depth and speed limits were concluded. Some of the talks were thoroughly interesting – one such was about the invisibility cloak.

The professor explained that the science behind it was – metamaterials and gave a brief talk on how he used them to make this. The other talk which I felt important was "Use of shape memory alloys precision gripping and surgical instruments".

Apart from oral presentation there were discussion panels, one of which had the Vice president of Samsung Analog devices moderating the debate on the gap between Industry and Academia. Overall the conference spanned across 3 days and accepted papers would be published in Springer sponsored Journal of Micro and Smart Systems. I would like to thank the department for granting me permission to work on this project in Indore.

Fish with external circuitry



3D printed model

Student write up – 4

SSN Cube Open – 2017

Co-ordinated by
Dr.M.Sundarakannan

The SSN cube open was successfully conducted on 28th and 29th of July 2017. The SSN Cube Open, started in 2016 by the SSN Maths department and students of Mechanical Engineering Department was successfully revamped for a second time. Nearly 45 volunteers worked for making this SSN Cube Open a grand success for the second time. Surpassing the previous year's number of participants of 91 by a large margin, cube open 2017 was attended by nearly 110 beady eyed brainiacs who proved their mettle as speed cubers.

Of the 150 participants who registered an astonishing turnout of 75% provided the much-needed fuel to the competition. Thirteen different speed cubing events were held in two days. Other than the common events like 3x3x3, 2x2x2 various other events like Megaminx, Pyraminx, Rubick's clock, Skewb, Square one, 4x4x4, Blindfolded 3x3x3, Multiple Blindfold 3x3x3, One handed 3x3x3 were conducted.

Three National records were broken in Rubick's clock, 4x4x4, Multiple blindfold 3x3x3 events. These records are currently pending confirmation from the World Cube Association. We hope that the legacy of this SSN Cube Open will be carried by our juniors bringing more honours to the Mechanical and Maths Department.

Write up by Nichiren – Final year Mechanical

Challenge – 1

Short Film Contest - Govt of India

Doordarshan is organising a short film contest named **"India @70 years of freedom"** on various themes on the occasion of 70th Anniversary of Independence.
"India @70 years of freedom" is an initiative of Doordarshan to create awareness, education, encouragement and enlightenment about Inspiring, real-life stories of ordinary people who have made a difference to the society to rid the society of some evil or malpractice, educate and enlighten people about the importance of Independence, freedom struggle, freedom fighters and to instil the feeling of patriotism.

Film competition categories are:
1. Inspiring, real-life stories of ordinary people who have made a difference to the society to rid the society of some evil or mal practice – up to 3 min duration
2. Films that interestingly educate and enlighten people about the importance of Independence – up to 2 min duration
3. Commercials that create awareness about the independence struggle, patriotism, freedom from some evil or mal practice in the society – up to 1 minute.

The best three films in each of the three categories will get Rs 50,000/-, Rs. 30,000/- and Rs. 20,000/- respectively and a merit certificate. The last date for submitting entries is 7th August, 2017.
Click here to download the **Registration Form**

Click here to read the **Rules and Regulations** of the contest

"India @70 Years of Freedom" - Doordarshan Short Film Contest

Challenge – 2

Logo Contest - Govt of India

Doordarshan (often abbreviated "DD" and दूरदर्शन in Hindi) is the Television Wing of Prasar Bharati, India's Public Service Broadcaster, which is one of the largest broadcasting organizations in the world.
Doordarshan logo over the years has inspired deep nostalgia of an era when the public broadcaster was the only television channel of the country. With the opening up of Television market to private channels, a whole generation of youth need to connect and identify with DD. In order to engage with India's youth and to get a mindshare for DD brand within the current generation, DD is seeking a new logo design.

The new logo while recalling the strong nostalgia associated with the DD brand, should reflect the aspirations of new India.

DOORDARSHAN (DD) invites all Indian Nationals to participate in designing a new logo for the flagship Doordarshan Brand. The Logo shall comprise of an attractive design depicting Doordarshan.

Prize – Rs.1,00,000 Last day for submission of entries – 13th August, 2017

Click here to read the Terms and Conditions of the contest

Logo Design Contest for DOORDARSHAN – 2017

Oil and Natural Gas Commission has invited suggestions for the following five Challenges:

Challenge – 3 — Mud Loss in wells in Western Offshore

Mud losses while drilling is a serious problem in the Mumbai Offshore, affecting drilling time and well productivity adversely and increasing the well cost. Mumbai Offshore oil field is a multilayered reservoir. The producing reservoir of the fields is mainly comprising of fractured carbonate which is highly porous with various dimensions of porosity i.e. micro, meso and macro. The intensity of fluid invasion is very high due to the pattern and lithological characteristic (cavernous, vugular, fractured formation). Initially, wells were drilled using conventional or non-conventional drilling

Challenge – 4 — Sand Influx Control

ONGC is in the core business of exploration and production of oil and gas from various Onshore and Offshore fields in India. Oil and gas is usually trapped in porous rock composed of sandstone or Limestone. Many of the sandstone formations are poorly consolidated which leads to the production or incursion of sand and fines particles along with oil or gas.
Sand production can drastically effect on production performance of the wells, damages downhole equipment and surface facilities and increases the cost of production

Challenge – 5 — Data Computation and Analytics

In ONGC, there is a variety of database. In terms of exploration, there are databases in the form of reports which have been scanned such as those kept at CEGDIS, E&D Directorate or KDMIPE at Dehradun. Apart from this there is EPINET database, which covers most of the Well database, Seismic database and Well Logging database. The Well database is available in FINDER Format, which has been designed by a global leader in such solutions, while the Seismic and Logging database are in the form of SEGY and LAS files respectively.

Challenge – 6 — Flow Improvement

Improving flow of High Paraffinic and ashphaltinic crude in flowlines/pipelines. The crude oil flow in the pipelines involves flow of fluid of the following nature
1. High Paraffinic and/or Asphaltenic crude oil
2. High WAT / Pour Point
3. Low Ambient temperatures
4. Non-piggable pipelines
5. Long tied-back flowlines

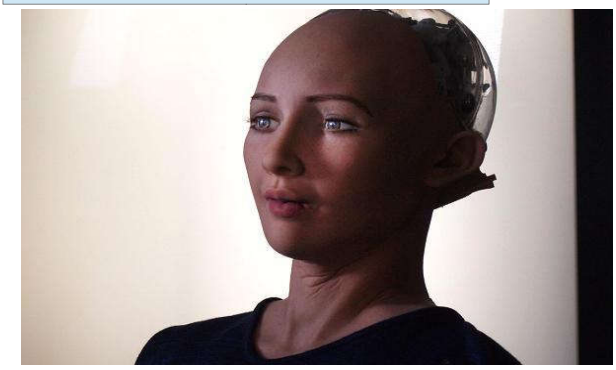
Challenge – 7 — Artificial Lifting Equipment.

The prevalent artificial lift modes in ONGC are Gas Lift, SRP, and ESP & PCP. Jet pumps were also tried, but have not been used extensively.
i) The challenges include
a) Mechanical failures of lift equipment due higher deviation resulting in higher stresses.
b) Operational inefficiencies resulting due to higher propensity of phase segregation in horizontal well bores…

Last Date for all Challenges is 7th August 2017. For details of the Challenges, pl visit https://innovate.mygov.in/ongc-innovation-challenge-2017/

Mech Marvel - 32

Sophia-the Robot that can display emotions



Sophia defies conventional thinking of what a robot should look like. Designed to look like Audrey Hepburn, Sophia embodies Hepburn 痴 classic beauty: porcelain skin, a slender nose, high cheekbones, an intriguing smile, and deeply expressive eyes that seem to change color with the light. If ever there were a robot with a simple elegance people cannot help but appreciate, it would be Sophia.

Sophia is a robot which appears as a white woman who speaks English in an American accent. The accent is standard, free of regional quirks. Sophia says talking to people is her primary function. The robot said it feels like it can be a good partner to humans to help humans smoothly integrate and make the most of all the new technological tools and possibilities.

Her creator is Dr. David Hanson, founder of Hanson Robotics and a modern-day renaissance man who has built a worldwide reputation for creating robots that look and act amazingly human. After working at Disney as one of its “Imagineers,” Dr. Hanson aspired to create genius machines that are smarter than humans and can learn creativity, empathy and compassion—three distinctively human traits Hanson believes must be developed alongside and integrated with artificial intelligence for robots to solve world problems too complex for humans to solve themselves.

One striking feature evident in Sophia is eye expression, where the eyes appear to blink and half-wink and emote as Sophia speaks. The robot smiles, registers surprise, and other expressions. It has cameras in the eyes. Algorithms allow it to see faces; it can make eye contact.

"Two cameras in her eyes track facial movements and expressions, which allows her to respond appropriately to conversations. The patented rubber material that makes up her face, known as 'frubber,' makes for an incredibly realistic human-look without trying to trick users into believing she's anything more than a robot thanks to the visible, encased circuitry in the back of her head," wrote William Hoffman in Inverse. CNBC similarly said her skin is made from patented silicon. According to the CNBC report, Sophia can emulate more than 62 facial expressions. Sophia can learn as she continues to talk with other people. CNBC reported that a combination of Alphabet's Google Chrome voice recognition technology and other tools enable Sophia to process speech, chat and get smarter over time.

Hanson is hoping that by getting robots out to the public more, it not only teaches robots to care about humans but it also helps humans break down the social barriers associated with robotic interactions. Hanson Robotics' stated mission is "to create a better future for humanity by infusing artificial intelligence with kindness and compassion, achieved through millions of dialogs between our robots and the people whose lives they touch."

https://techxplore.com/news/2016-03-humanoid-sophia-primary-role-people.html

Sophia is Hanson Robotics' latest and most advanced robot. She has also become a media darling, having given numerous interviews to multiple media outlets, sang in a concert, and even graced the cover of one of the top fashion magazines. One of her interviews has generated billions of views and social media interactions. She has also shown her potential in business, having met face-to-face with key decision makers across industries including banking, insurance, auto manufacturing, property development, media and entertainment. In addition, she has appeared onstage as a panel member and presenter in high-level conferences, covering how robotics and artificial intelligence will become a prevalent part of people lives.

Sophia is an evolving genius machine. Her incredible human likeness, expressiveness, and remarkable story as an awakening robot Over time, her increasing intelligence and remarkable story will enchant the world and connect with people regardless of age, gender, and culture.

Daily mail of UK reports as

"Artificial Intelligence is good for the world' insists Sophia, the creepy life-like robot who tells jokes, bats her eyelids and will soon be learning how to LOVE

- **Humanoid robot is the main attraction at a UN conference in Geneva this week**
- **Sophia herself insisted 'the pros outweigh the cons' when it comes to AI**
- **Work is underway to make AI emotionally smart, researchers say**
- **Sophia believes that robots can be 'friends and helpers' to humans**

By Phoebe Weston For Mailonline

Published: 15:29 BST, 8 June 2017 | Updated: 16:34 BST, 8 June 2017

Watch the creator talking with Sophia, at
https://youtu.be/W0_DPi0PmF0

Watch Sophia, being interviewed live on "Good Morning Britain", a TV program
ttps://youtu.be/kWlL4KjIP4M

You can contact Sophia at her own website:
www.sophiabot.com

Corporate Story 32

Ampere Vehicles Pvt Ltd, Coimbatore

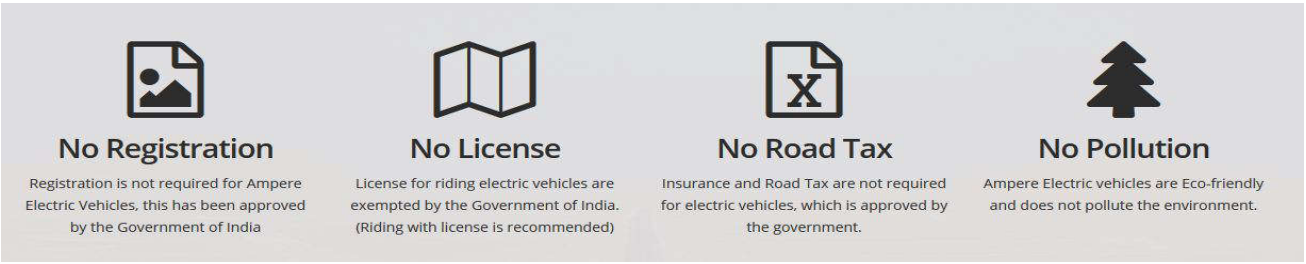
Ampere vehicles Pvt. Ltd (AMPVL), established in 2008, has a successful track record in the area of design, development, manufacturing and marketing battery operated Electric Vehicles in India which include Electric Cycles, Electric Scooter, Electric Three Wheeler and also Customized Electric Vehicles.

Ampere was incorporated consciously to bring about awareness of high dependency of our country in fossil fuels and propagate alternate transport solutions using disruptive business models. Ampere's team will innovate in every aspect to be a self reliant manufacturer to design key components of an electric vehicle.

Ampere Angel Electric Cycle is India's first 36V trendy electric cycle completely designed in India. Its elegant design has helped school children, senior citizens and avid cyclists alike. One can seamlessly switch between the two modes: pedal mode and battery mode.

Ampere V48 is India's first pluggable battery based electric scooter. It is designed to be light weight and comes in four colors, Grey has been most preferred by all customers. Launched in Jan 2016, V48 has already won the hearts of many customers who are looking at an affordable scooter.

Ampere V60 is India's first 60V model and is one of the popular electric scooter models of Ampere. V60 has been in production since 2010. V60 can comfortably carry two adults and is a family vehicle. V60 is very suitable for hilly terrains and can climb gradients quite easily.



The electric vehicles industry in India is yet to experience an exponential growth given the lack of a proper ecosystem and attention from the government. However, after a downhill period, there is a ray of hope for the industry with Government of India announced its ambition of putting seven million electric and hybrid vehicles every year on the road by 2020.

Though the industry is still struggling to find an independent identity for itself, a couple of players have embarked into this space and vouched for a positive future ahead. Ampere Electric is one of the few names which have carved a niche for themselves as innovative technology creators in the nascent Indian electric vehicle industry. The company's products range includes e-cycles, e-scooters, e-trolleys (for carrying load) and special-purpose vehicles for waste management and to cater to differently abled persons.

“Ampere was incorporated consciously to bring about awareness of high dependancy of our country in fossil fuels and propagate alternate transport solutions using disruptive business models. Ampere's team will innovate in every aspect to be a self reliant manufacturer to design key components of an electric vehicle.”
Ms.Hemalatha Annamalai, CEO

The idea for the company hit Hemalatha Annamalai when she attended a conference with her husband in Japan. One of the speakers there made a very strong statement, noting: “gone is the era of the ICE (internal combustion engine)”, and spoke at length on how electric vehicles will create ripples in future.

Hemalatha founded Ampere Electric in 2007. Coming from a non-manufacturing background, doing this was one of the biggest challenges for her.

Hemalatha holds an MBA from Royal Melbourne Institute of Technology, Australia, and a bachelor’s degree in computer science and engineering from Government College of Technology, Coimbatore. Recently, Ratan Tata has invested an undisclosed amount in this Coimbatore-based electric vehicle startup. Ampere will be predominantly utilising these investments towards its indigenisation efforts. The startup aimed to indigenise the four key components needed to make an electric vehicle, namely, **battery, motor, charger and controller.**

Research and development has been the backbone of Ampere since inception, because the startup claimed to be the first company in India to make their own chargers (36V and 48V) for e-vehicles.

In India, charger is one of the biggest problems, as the imported chargers are not suited to the Indian road condition and erratic power supply,” Hemalatha says.

Today, all the vehicles of Ampere Electric are run on motors and controllers designed by the R&D team. The team has also created an intelligent battery chip which ensures that batteries do not bulge and helps increase the usage life of batteries.

Hemalatha says the company has invested and reinvested a major portion of the income in R&D efforts, especially to develop indigenous products. Twenty per cent of their workforce works in the dedicated R&D unit.

E-three wheeler for cargo

e-Trolley

Trisul Industrial vehicle

Expansion spree

Ampere Electric was selling around 200 vehicles per month. When government has given interim subsidy for e-scooters from 2010-12, the number went up to 687.

As a part of its growth strategy, Ampere aims to increase distribution print from the current four States to 10 within the next three years. The company also plans to launch two new models before the end of this calendar year. Ampere will build an e-cycle factory completely operated by women in the next 3 years.

https://yourstory.com/2015/08/ampere-electric/

Amazing Innovation- 29

Waterless Toilets generate energy

The Loowatt toilet uses a patented, simple and efficient sealing technology to contain human waste within biodegradable film, with a unique odor-inhibiting system. The waste is then stored in a cartridge for periodic emptying, which can be weekly or daily, depending upon level of usage and capacity requirements.

The Loowatt sealing unit can be built into toilets of any shape, size and specification, using off-the-shelf parts and local materials to maximize value. For example, the Roso toilet on the right, is a new version of their toilet in which their hardware is built into an off-shelf injection-moulded plastic pedestal. The Roso exemplifies their technology's important ability to adapt to toilets of many shapes and sizes.

Loowatt toilets use a biodegradable film to perform a waterless flush.

The Roso Toilet, Madagascar 2016. Roso means "move or go forward" in Malagasy—an idea we associate with progress on improving access to sanitation."

Convenience : The sealing and storage system is easy to use and does not require electricity. It safely contains material while the treatment system reduces servicing time and equipment requirements for the operator.

Energy : The toilet is designed for linking to anaerobic digestion technology, to provide a source of biogas for cooking, electricity, and other applications. This creates the exciting opportunity to offset capital costs with energy production.

Intelligence : The system reverses the cost of disposal, turning waste treatment into a profit opportunity.

Independence : The Loo delivers high-standard sanitation without the need for electricity or water-based infrastructure.

High Standards : The efficient and odorless Loo provides visitors a pleasant experience compared with existing products.
More info at https://loowatt.com/technology/

Amazing Innovation- 30

Compressed coin toilet paper

The Compressed Coin Toilet Paper is much more than just Toilet Paper (TP). You can get 200 pieces for just $23 and they come in convenient 50-pack bags which have individually wrapped packs of TP coins.

This particular brand is called the EZ Towel and starts off about the diameter of a nickel (but much thicker) and expands with just a few drops of water. Sure, it makes great toilet paper but it also works great for baby bags, fishing trips, the glovebox, camp trips, etc… Each EZ Towel does the work of over 10 paper napkins and they are biodegradable.

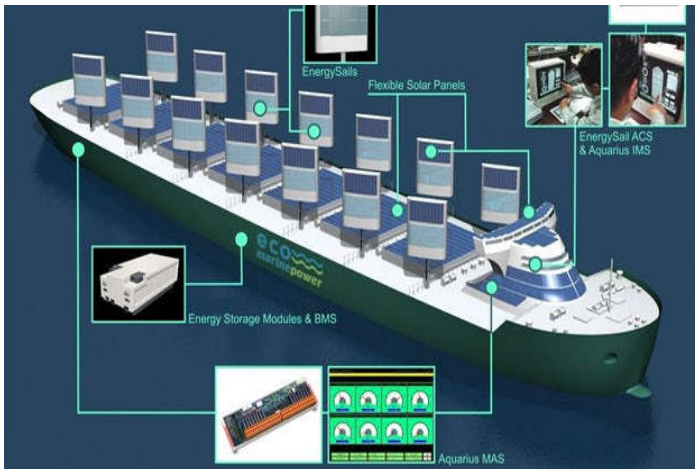
https://youtu.be/dP9U7cuzpuY

Amazing Innovation- 31

Eco Marine Power is preparing to put its rigid solar energy sails through their paces next year. Unlike some other proposals for reviving the use of sails in commercial shipping, the EnergySail from Eco Marine Power (EMP) can harness the power of the wind and sun at the same time, for high-efficiency transport on the high seas.

Made of either high strength steel or carbon fiber, the EnergySail is a rigid sail sitting on a rotating pole, mounted on the deck of a ship. Solar panels embedded in the sail, along with panels mounted on the deck, are used to augment the power usually provided by auxiliary generators. When conditions get rough, the sails can be lowered and stored out of harm's way.

When the ship is sitting in port, the EnergySails can also be used to collect energy. It'll be stored in a battery and used for zero-emissions operation of its electrical systems. EMP is also planning a version of the sails capable of collecting solar power when lowered.



Amazing Innovation- 32

The snake like Bio robot for monitoring water quality

The robotics researchers at Switzerland's École Polytechnique Fédérale de Lausanne (EPFL) have produced some truly impressive (and creepy) animal-inspired droids over the years.

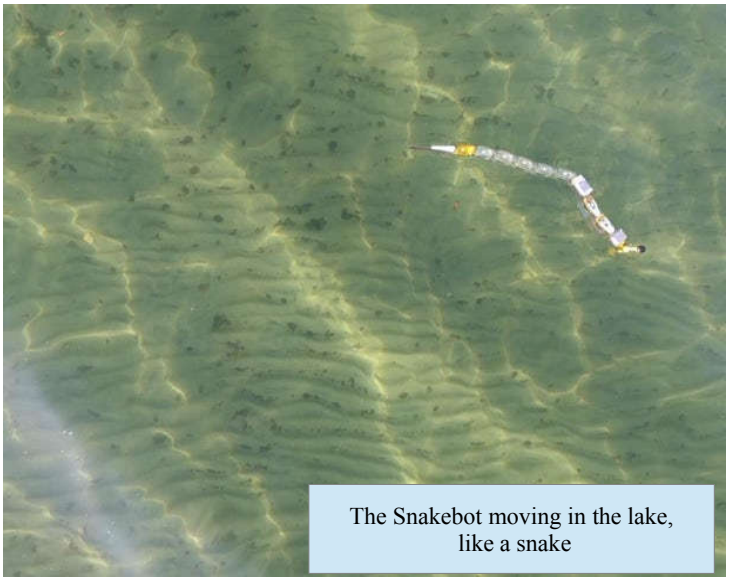
Following in the footsteps of the team's robotic turtles, grasshoppers and crocodiles comes the Envirobot, a robotic eel built to snake through contaminated water to find the source of pollution.

The Snakebot with different modules containing different sensors

Envirobot can be controlled remotely or swim on its own, measures 1.5 meters long (5 ft) and is made up of individual modules that each house a small electric motor. These motors are what changes the robot's curvature, enabling it to snake smoothly through the water without stirring up mud or annoying aquatic life.

Meanwhile, some of these modules contain sensors to measure things like conductivity and temperature, while others contain chambers designed to fill up with water. Those that fill up with water also house bacteria, small crustaceans and fish cells, which work as biological sensors.

By watching how these organisms respond to the water as it enters the chamber, the operators can get a read on what kind of pollutants are in the water and its toxicity in general. For now, the team has only tried this out in the lab, where it says it was shown to be highly effective.



The Snakebot moving in the lake, like a snake

"For example, we developed bacteria that generate light when exposed to very low concentrations of mercury," says Jan Roelof van der Meer, Project Coordinator and Head of the Department of Fundamental Microbiology at the University of Lausanne. "We can detect those changes using luminometers and then transmit the data in the form of electrical signals."

Another example of these biological sensors involves the use of Daphnia, which are tiny crustaceans less than 5 mm (0.20 in) whose movement is affected by water toxicity.

Two of Envirobot's modules contain the Daphnia, one in clean water and one in water taken in while it swims around. By tracking the movement of the creatures in each tank, the team can gain an indication of the water's toxicity. Watch the amazing movement of the snake bot at https://youtu.be/lcsZxJiy5Cg

Alumni Info - 1

Adithya, of 2011-15 batch, has completed his Masters in Industrial Engineering from Purdue University with 3.89/4 CGPA He had the courtesy to write back, giving his whereabouts and extending help to current students.

Dr Annamalai,
Hope you are doing well.
I am a part of the 2015 Mechanical batch, I also did my design and fabrication project under your guidance.
I recently graduated from Purdue with a Masters in Industrial engineering. I am starting this week in a supply chain consultant role in a company based out of Philadelphia, it's called Arkieva.
If any of the students in the future are looking to move into this field I will be more than happy to help them out. Just wanted to reach out to you regarding this.
Thank you.

Regards,
Adithya Vivekanandan

While we give high recommendations to our students,
it is of interest to know how they create an impact in their places of work.
Adi's Linked in profile has these nice reflections by people who worked with him.

It was a great experience working with Adithya. One of the difficulties new employees usually have is coming to grips with all the different systems we use. Adi was able to quickly come to grips with these systems and use them efficiently to get his work done. This was a huge boon for our department. His ability to juggle the projects I gave him and the work given to him by his direct supervisor made his tenure here invaluable to us. He will be missed.

Binu Philip
Project Engineer Aftermarket at NACCO Materials Handling Group

Adi interned at Hyster-Yale Group and was an absolute pleasure in the workplace. Adi fit right into the team and was competent from day one. He was able to handle multiple projects in addition to helping HYG with a number of daily engineering tasks, such as Engineering Change Notices.
Adi worked on multiple projects, including leading the design of a modular test cart for our mechanical validation team. He also took part in a manufacturing process redesign that was implemented as he headed back to school. I expect Adi will make a very strong engineer and hope to see him again in the future.
Best of luck back at school to you Adi!

Anthony Hornbeck
Territory Manager at Watchfire Signs

Alumni Info - 2

IIM

Respected Sir,
I am thrilled to inform you that I have **secured admission to Indian Institute of Management Indore**. I have attached the preliminary confirmation webpage herewith.
Thank you for all the guidance and support.
Yours Sincerely,
Ramya.R (2013-17 batch)

Group News from Amit Tyagi

380 students pass out with an aggregate score of 83.3%

VidyaGyan Sitapur student secures the highest marks in the district in Commerce at 96.8%

- VidyaGyan, a leadership academy for economically underprivileged, meritorious students from rural Uttar Pradesh celebrated its second graduation ceremony.
- Mr. Umang Bedi, Managing Director, India & South Asia at Facebook and India's only solo Olympic Gold medalist - Mr. Abhinav Bindra, were the guests of honor at the ceremony, which was attended by VidyaGyan students, teachers, parents and other dignitaries.
- A total of 380 students passed out of the Academy this year with a whopping 259 students scoring above 80%, out of which 93 students scored above 90%.
- Most of the students have gained admission in prestigious institutions like IIT Guwahati, National Institute of Technology (NIT), the National Defense Academy, National Institute of Fashion Technology etc.
- Seven students have gained admission to prestigious international institutions like Purdue, Virginia Tech, Pennsylvania State University and University of California, Davis.
- The other students of the second batch of VidyaGyan have secured admission in some of the top colleges of Delhi University including Lady Shri Ram, Hindu, Ramjas and Gargi College and other top Universities and Colleges like –Shiv Nadar University, SSN Institutions, Lucknow University, Chandigarh University etc.
- Speaking at the graduation ceremony, and highlighting the students' stellar performance, **Roshni Nadar Malhotra, Trustee, Shiv Nadar Foundation and Chairperson, VidyaGyan** said, *"Today we give 380 future change agents to the nation who have the potential to transform India's social and economic fabric."*

VidyaGyan provides underprivileged, meritorious students free, world-class education to help them transcend the disadvantages they face and compete with their urban counterparts. VidyaGyan students come from families of farmers, daily wage earners, among others in rural Uttar Pradesh with an annual family income of less than Rs. 1 lac. Every year, VidyaGyan handpicks approximately 200 meritorious students from a pool of 250,000 children who apply from across 75 districts of Uttar Pradesh (UP).

More Info at http://blog.shivnadarfoundation.org/general/vdyagyan-graduation-day-2017

August 2017

Forthcoming events

1.The Department of Civil Engineering, Bannari Amman Institute of Technology, Sathyamangalam, is organizing a one day national Training Programme on NON-DESTRUCTIVE TESTING (NDT) OF CONCRETE STRUCTURES on 09 August 2017.

2.The Annual Glider Workshop for II Year Mechanical students, conducted by SSN Mech, is being scheduled for Saturday, August 12, 2017.

3.Self-Sponsored One week short term course on WASTE MANAGEMENT: PRACTICES & CASE STUDIES, during August 28 –September 1, 2017 Organized by Department of Energy and Environment (DEE, NIT ,Trichy).Last date for registration Aug 17, 2017. Fee Rs.2,000 for faculty and Rs.500 for Student/Scholars.

September 2017

4. The 4th International Conference on Industrial Engineering(ICIE- 2017) at SVNIT, Surat during December 21-23. website of conference at http://icie2017.com
full papers by 15th Sept ,2017
Registration fee-Rs.4,500 for Faculty and Rs.3,000 for Scholars/Students.

October 2017

5.Indian Science Congress Association, Coimbatore Chapter & Kongunadu Arts and Science College, Coimbatore are organizing a National Level Conference on Reaching the Unreached Through Science and Technology - Concepts, Principles and Application of Science and Technology for Nation Building. During 9-11 October 2017. Abstract by 20.9.2017

November 2017

6.The 9th National Conference on Thermophysical Properties (NCTP-2017) November 6-8, 2017 , Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu, India.*Sponsored by: Board of Research in Nuclear Sciences (BRNS),* http://www.nctp2017.org . Last date for Paper submission: 1 Sept 2017

7.The Department of Physics, B.S.Abdur Rahman University, Chennai, is organizing a Two days National conference on "RECENT TRENDS IN FUNCTIONAL MATERIALS" during NOV 15-16, 2017. : www.bsauniv.ac.in
Last date for paper submission : 01.10.2017

December 2017

8.National Conference on Advanced Materials (NCAM-2017), 12-13 December 2017, Department of Physics, PSG College of Technology, Coimbatore. www.ncam2017.in
Important Dates
Abstract Submission opens: 01-08-2017 . Last date for abstract submission: 14-09-2017
Registration Faculty: Rs.2300 Research Scholars: Rs.1700

9.International Conference on Nanotechnology: Ideas, Innovations and Initiatives-2017 (ICN:3I- 2017), December 06-08, 2017, Indian Institute of Technology (IIT) Roorkee, India (http://www.iitr.ac.in/icn3i2017/) **Last date of abstract submission -September 15, 2017.**
Selected papers will be published in Materials Today Proceedings: Elsevier

September 2018

10.The 4th International Conference on BioTribology (ICoBT 2018) will be held in Montreal, Canada, on 26-29 September 2018. submit abstracts by 20 April, 2018.
https://www.elsevier.com/events/conferences/international-conference-on-biotribology

Research News from MSP

Project Call 1

Dr.Muthu Senthil Pandian
SSNResearch Centre

SERB - Early Career Research (ECR) Award - Call for application-2017

The Early Career Research for the purpose of the program refers to the first assignment of the applicant in a regular capacity in a recognized academic institution or national laboratory or any other recognized R & D institution in India.

- The Early Career Research Award is a one-time award and carries a research grant up to Rs. 50 Lakhs (excluding overheads) for a period of three years.
- The research grant covers equipment, manpower, consumables, manpower, travel and contingency apart from overheads. Eligible Researchers can submit the proposals till **Aug 10 2017**.

Website: http://serbonline.in/SERB/ecr?HomePage=New

Project Call 2

Tamilnadu State Council for Science and Technology has been implementing Student Projects Scheme in order to harness the talent and potential available with students for the benefit of our State. Under this scheme final year UG students (Engineering) / PG Science Students / PG professional Students who have dissertation work in their curriculum may apply.

Two copies of the proposal should be signed and forwarded by the Guide through HOD and Principal / Registrar as the case may be to reach the council office on or before **31 AUGUST 2017**, 5.00 PM.

Website: http://www.tanscst.nic.in/

Fellowship Scheme Call

TNSCST - Applications are invited for Young Scientist Fellowship Scheme (YSFS-2017-18)

1. Aim of the Scheme : To encourage young scientists and researchers below 40 years of age to get themselves acquainted with the latest techniques in research and development .
2. Amount of Fellowship : Rs.10000/- P.M .
3. Period of Fellowship : 2 to 6 months .
4. Eligibility : The applicant
    1. should have Masters degree (or) Ph.D Degree in the respective disciplines
    2. should be below 40 years of age
    3. should hold a regular position in the parent institution
    4. should avail leave with pay from the parent institution during the period of fellowship .
5. Venue of the fellowship : Should be a centre of excellence located outside Tamilnadu. The applicant should obtain the consent from the Parent and Host Institution for the training and enclose the same with application.
6. Travel assistance : To and fro from the parent institution to the host institution by shortest route **by rail (II AC)**
7. Last date for filing filled up application : **28.9.2017**

Website: http://www.tanscst.nic.in/

Workshop info 1

The National Centre for Photovoltaic Research and Education (NCPRE) at IIT Bombay announces a 3-day Workshop on "Theory and Technology of Silicon Solar Cell" on September 18 - 20, 2017.

NCPRE has established a silicon solar cell fabrication and characterization facility where 6 inch X 6 inch area cells with efficiency greater than 18% are routinely fabricated and analyzed. Going forward we aim to develop cost effective technologies for 22% efficient solar cells. Leading edge expertise is established in large area cell technology development and characterization, using which several industrially relevant processes are being developed.
Workshop fees are Rs. 18000/- for industry and Rs. 11500/- for government/academia, students Rs. 5750/-. (all rates are inclusive of 18% service tax).

If you would like to attend this Workshop, please register online at the following link:
http://www.online.ncpre.iitb.ac.in/ncpre_registration/short_
term_course_form.php?workshopid=Nw==

For more details please visit
http://www.ncpre.iitb.ac.in/pages/short_term_courses.html

Workshop info 2

Short term Course On COMPUTATION DESIGN FOR ENERGY APPLICATION *on* **7th -11th August, 2017** at Hindustan University, Chennai, India.

LECTURES & DEMO BY:
1. Prof. Rajeev Ahuja, Uppsala University, Sweden
2. Prof. Ranjit Nanda, IIT Madras
3. Prof. Rita John, Madras University
4. Prof. Sarat Chandra, IGCAR, Kalpakkam
5. Prof. R. Subramanian, CLRI

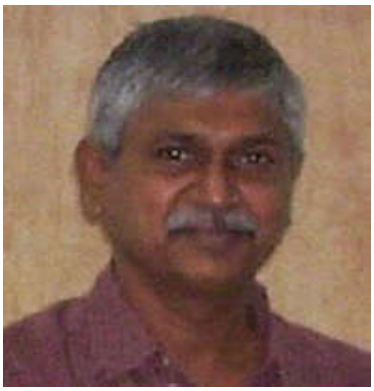
DURATION : 5 days (07.08.2017 to 11.08.2017)
COURSE FEE: Rs.4000/-
REGISTRATION: Dr. Puspamitra Panigrahi (SCIENTIST – E)
Email: cencon@hindustanuniv.ac.in
Phone: 044 – 27474262 EXT: 173, 195

Student project call for Internal Funding

- **SSN invites project proposals from UG and PG students, for internal funding support.**
- **Last date for application 16-8-2017.**
- **Prescribed formats can be had from dept office.**

Inspiring Life Stories

Minding one's own business



Mr/Kishore Babu
Schwing Stetter

One day a new employee went to the HR and said,
" I'm not interested in coming to the office anymore."

The HR responded, "But why?"

Then the boy told "Ah! I can speculate many employees speaking badly about other Employees on back of him/her; one employee who can't talk well; Few employees looking at their fellow employees in a wrong way, there are hell lot of things that I can prove you wrong in our Office."

There are people who do a lot of politics and talk all negative all the time. Few only do gossips all the time."

The HR replied "OK, but before you go, can you do me a favour: take a full glass of water and walk three times around the office area without spilling a drop on the floor. Afterwards, leave the Office if you wish for."

The boy thought: it's a matter of minutes for him. And he walked three times around the office floor. Then he reached HR saying that he is done with it.

And the HR asked "When you were walking around the Office floor did you see any employee speaking badly about another Employee? Any Gossips? Any disturbances?

The Employee replied "No."

HR: "Did you see any Employee looking at other employees in wrong way?"

Boy said "No"

HR: "You know why?"

Boy: "No"

HR: "You were focused on the glass, to make sure you didn't tip it and spill any water. The same goes with our life. When our focus is on our priorities, we don't have time to see the mistakes of others."

Moral of the story:

Concentrate on your priorities and not on other's mistakes.
In short, mind your work, then your mind will have no time to mind others!

Contribution: Ms. Revathy, HR Department , Syrma Technology Private Limited, Chennai

Thanks & Regards –

Kishore Babu
HR - Department
SCHWING Stetter India Private Limited

Corporate Wisdom 44

Secrets of Life

There are no secrets in life . Every piece of wisdom on every aspect of life has been there from time immemorial. Human ignorance has made even the obvious, a secret.

- A formula does not care who applies it. If applied properly, it will give you the results.
- If your results are not accurate, then there are only two options. Either you don't know the formula, or you did not apply it properly.
- If you don't know the formula, then there are hundreds of sources that can help you. However, if you know the formula and yet you do not apply it properly , even God cannot help you.
- Most of what we categorize as secrets are so because we have not been applying what we know, properly to our life.

We say the secret of health is …. But why is it a secret?

- Our body can take care of us, only if we take care of our body. The more we pamper our body, the worst it becomes. An hour a day to push your body; in turn , the body will take care of us the remaining 23 hours.
- Nourish the body by coloring your diet. Ensure as many colors as possible is consumed in your diet. So, color your diet.
- Drink enough water.
- And importantly , give your internal system some rest by fasting once in a while.

We say the secret of happiness is … but why is it a secret?

- What is , is. What is not, is not.
- Disturbance is a by-product of " resistance". Happiness is a by-product of " acceptance".
- You cannot control what happens to you. But you can control how you respond to what happens to you.
- So , instead of accepting yourself as you are and expecting the world to change, if you can accept the world as it is, and you change your approach towards it, you will always feel on " Top of the World".
- **Instead of wishing life should customize itself for you, you customize your response to life.**

Have a great day !

R.Ramakrishnan