Newsletter

Volume 10 , Issue 7, July 2020

SSN Mechanical

Aspire

Achievements in Sports, Projects, Industry, Research and Education

All About Nobel Prize- Part 79

Alleviating poverty

Esther Duflo is a French–American economist, who is the Abdul Latif Jameel Professor of Poverty Alleviation and Development Economics at the Massachusetts Institute of Technology. She is the co-founder and co-director of the Abdul Latif Jameel Poverty Action Lab, which was established in 2003. She shared the 2019 Nobel Memorial Prize in Economic Sciences with Abhijit Banerjee and Michael Kremer, "for their experimental approach to alleviating global poverty".

Born on 25th October 1972 in Paris, Esther is the daughter of pediatrician, Violaine Duflo and mathematics professor, Michel Duflo. Her mother often visited countries like Rwanda, Haiti and Salvador to help treat children living in poverty or who were victims of war. Through her mother, she was exposed to poverty as a child and felt a responsibility that she made it her lifetime work to help the poor.

Duflo studied history in her undergraduate degree at École Normale Supérieure, Paris. It was while spending a year in Russia at the time when the country was transitioning to capitalism that, she decided to make the switch to economics. She watched economists advising the Russian government and realised that academic economists could do academic work and still make real world impact. This led her to the conclusion that it was the best of both worlds.

She finished her degree in history and economics at École Normale Supérieure in 1994 and received a master's degree from DELTA, now the Paris School of Economics, jointly with the School for Advanced Studies in the Social Sciences (EHESS) of the Université Paris Sciences et Lettres (PSL) and the École Normale Supérieure, in 1995. Subsequently, she completed a PhD in economics at MIT in 1999, under the joint supervision of Abhijit Banerjee and Joshua Angrist. MIT broke a long-standing departmental rule against hiring its own graduates when they appointed her as an assistant professor in the Department of Economics in 1999. In 2002, Esther, 29, was promoted to the position of Associate Professor with tenure, making her the youngest faculty recipient of the tenure.

At MIT, the researcher focused on the economic lives of the poor, with the aim to help design and evaluate social policies. Her work involved subjects like health, education, financial inclusion, environment and governance. She conducted experiments in India and African nations to determine how various factors such as healthcare and education could be improved to combat poverty. She wrote extensively on topics like HIV prevention in Kenya, how teacher incentives can improve student results, bundling health insurance and microfinance, improving immunisation rates in India, and the role of social interactions in retirement plan decisions, increasing educational opportunities for girls, and more.

Along with Abhijit Mukherjee, she partnered with an Indian NGO Pratham to develop 'Teaching at The Right Level' (TaRL) approach. The field experiments conducted by them proved that matching teaching to the children's learning level rather than age led to improved results. The approach has now been scaled to throughout India and Africa to reach over 60 million students.

Duflo has received numerous academic honours and prizes including the Princess of Asturias Award for Social Sciences (2015), the A.SK Social Science Award (2015), Infosys Prize (2014), the David N. Kershaw Award (2011), a John Bates Clark Medal (2010), and a MacArthur "Genius Grant" Fellowship (2009). With Abhijit Banerjee, she wrote Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty, which won the Financial Times and Goldman Sachs Business Book of the Year Award in 2011 and has been translated into 17 languages. Duflo is the Editor of the *American Economic Review*, a member of the National Academy of Sciences and a Corresponding Fellow of the British Academy.

Source: https://www.nobelprize.org/prizes/economic-sciences/2019/duflo/

Info to Alumni- Campus Update

Dr.S.Salivahanan retires....

Our beloved Principal, Dr.S.Salivahanan has retired on June 30, 2020.

During his long tenure, he has facilitated SSN's transformation from "a developing Institution" to "one of the most reputed institutions in India".

He is moving up in his career, as the **Vice-Chancellor of Vel Tech University, Avadi**, Chennai, with effect from July 01, 2020.

The Mech team wishes him a great career ahead----------VeA

Towards Proctored Online Assessments....

On June 24, Dr.C.Aravindan organized a zoom meet for faculty to interact with "Great Learning" software team.

They offer their product "Olympus Digital Campus" to seamlessly Conduct Online classes, Proctored Exams, Track Attendance, get Student Management Analytics and an Integrated LMS.

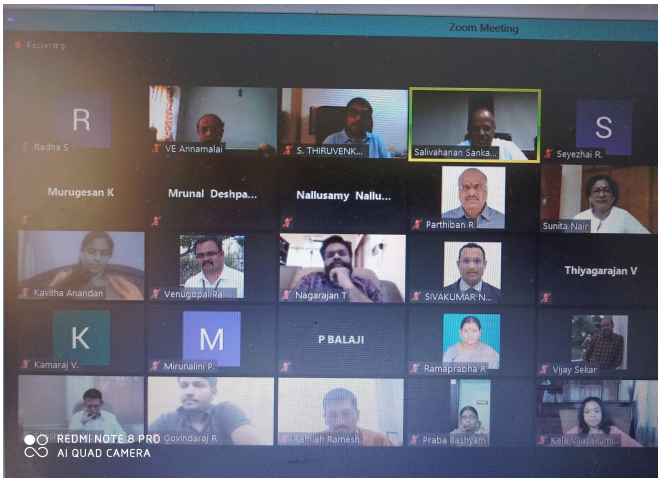
Understanding Open Book Assessments

Dr.Chitra Babu, HoD, CSE, organised a Zoom session on Open Book assessment, on 29-6-20, for SSN Faculty.
The Speakers were
Prof. R. Ramanujam(Institute of Mathematical Sciences) and Prof. Madhavan Mukund(Deputy Director and Dean of Studies, Chennai Mathematical Institute). Around 114 faculty participated.

The idea was to understand some common guidelines based on their wide experience in administering such exams for Mathematical and computer programming/algorithms subjects.

Bidding Farewell to Principal

Our beloved Principal Dr.S.Salivahanan retired on June 30.
President Ms.Kala Vijayakumar felicitated him
by organizing a Zoom Party on June 30 at 11 am.
Around 250 faculty and staff particpated in the zoom meet.



Dr.Salivahanan has been with us for the past 17 years. During his time our Institution has achieved exponential growth. I always envy his ability to network.

When we go to any meet, he will know at least 50 % of the gathering and he will be busy trying to know the remaining 50 %.

It was through his contacts that he was able to bring President Abdul Kalam to our campus.

He has also developed a culture of writing books, by developing many other faculty to write books.

Wherever he goes, he will create a good culture.

We have never seen him getting angry with anyone.

The best way to describe him is by the Thirukkural ….

காட்சிக் கெளியன் கடுஞ்சொல்லன் அல்லனேல்
மீக்கூறும் மன்னன் நிலம்.

காண்பதற்கு எளியவனாய்க்
கடுஞ்சொல் கூறாதவாய் இருந்தால்
அந்த மன்னனுடைய ஆட்சிக்கு உட்பட்ட நாட்டை
உலகம் புகழும்.

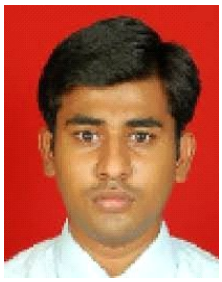
நாங்கள் பிரியா விடை தான் கொடுக்கிறோம் , because no one can separate you from SSN.

You will definitely fare well in any place. Wishing you well in your future endeavours.

External Recognition

Dr.K.S.Vijaysekar was invited to chair a session on “Mechanical Sciences" in the International Conference on Integration of Advanced Technologies for Industry 4.0 (ICIATI) sponsored by AICTE and organised by Mechanical Engineering Department , KCG College of Technology, Chennai, on June 12th 2020. The session dealt with papers related to manufacturing and design and was well organised with good attendance of the presenters.

Dr.R.Vimal Samsingh delivered a guest lecture on the topic "Fuzzy logic framework for IoT Sensor systems" in the workshop "Applications of Artificial Intelligence for Smart Technology" conducted by the department of Electronics and Communication , SSN College of Engineering (8-6-20)



Dr.M.Suresh delivered a lecture on “Vapour Compression & Vapour Absorption Refrigeration Systems” in the one week online Faculty Development Program on “Applied Thermal Engineering” conducted by Department of Mechanical Engineering, Kalasalingam University [June 11, 2020, 10.00-12.00].

Appreciation received from the Organisers :
85 faculty members participated from all over India, in the session conducted using Webinar platform during 10 am to 12 pm. Please accept our appreciation for such a commendable job. You have covered all essential elements of Reversed Carnot cycle, Refrigeration Cycle and Refrigerants. Your description of how to convey it to participants is remarkable. We have also received many appreciable responses in feedback for the session you delivered

Dr. S. Suresh Kumar delivered a guest lecture using zoom app for the webinar titled “Structural Analysis using Finite Element Analysis tool” in June 19 2020. The webinar was organized by department of Mechanical Engineering, PA College of Engineering, Pollachi.
Importance of structural analysis, present tools being for the analysis, case studies and tutorial problems were discussed. Around 70 participants (final year students, research scholars) attended the webinar and the feedback was good.

Dr.S.Vijayan attended a virtual International conference on Innovations in Advanced Materials Processing and Manufacturing (IAMPM-2020)" on jun4 24, 2020 conducted by VIT,Vellore.

Workshop conducted Dr. B. Anand Ronald, Dr. K. Rajkumar and Dr. L. Poovazhagan, conducted One day ONLINE workshop on "Fabrication of Polymer Matrix Composites" on 12-6-20.

FDP attended

Dr. M. Dhananchezian, Asso. Prof attended the 6 Days FDP on Advanced Machining Techniques, organized by School of Mechanical Engineering, Sathyabama Institute of Science and Technology in association with Indian Institution of Production Engineers (IIPE), from 22.06.2020 to 27.06.2020.

Dr. K. Jayakumar has attended one day FDP on “Outcome Based Education Software" Organised by Vmedulife software services on 11th June, 2020.

Dr. K. Jayakumar has attended National Level 5 days online Short Term Training Program (STTP) on “Recent Advances in Smart Manufacturing Technologies” from 15th to 19th June 2020 organized by Department of Mechanical Engineering, Padmashri Dr. V.B. Kolte College of Engineering, Maharashtra.

Dr.K.S.Vijaysekar attended a Three days Virtual Faculty Development Programme on "Evolutionary Optimization Techniques" organized by the Department of Electrical and Electronics Engineering, SSN College of Engineering, Chennai between June 15th and 17th, 2020. The 3 day program dealt with the theory and application of evolutionary computation and optimization techniques as a alternate to traditional mathematical tools for studying and analysing data that is complex and large scale.

Dr.A.K.Lakshminarayanan, participated in a 5 day Online Faculty Development Programme on “Contemporary Developments in Manufacturing Processes, Sustainable Manufacturing and Industrial Technologies' organized by Department of Mechanical Engineering, Pragati Engineering College, Surampalem, Andhra Pradesh during 9th to 13th June 2020

Mr.B.Jayakishan, Asst.Prof./Mech., participated in one week online FDP organized by Department of Mechanical Engineering, Meenakshi Sundararajan Engineering College, Chennai, Tamilnadu, from 22.06.2020 to 26.06.2020. The title of the FDP is "Testing of Materials for Engineering Application".

Dr. N. Nallusamy, Professor attended the FDP on "Biofuels & its applications" organized by MEA College of Engineering, Perinthalmanna, Kerala during 1st to 5th June 2020.

Dr. S. Soma Sundaram, Associate Professor, attended a one week faculty development program on Applied Thermal Engineering. (8-14 June, 2020).

Dr.K.S.Vijaysekar attended a webinar titled "ERGONOMICS @ HOME" delivered by Environmental Sustainability Health and Safety wing of TCS Chennai in collaboration with IEI Kanchipuram, organised by the Mechanical Engineering Department , St. Joseph's Institute of Technology, Chennai, on June 26th 2020. The presentation from Ergonomics experts was an eye opener of sorts with the present work from home situation being used a background to explain the importance of correct postures when sitting with our laptops.

Webinars attended

Dr. B. Anand Ronald, attended a training on Creating E - Certificates for Conferences and Workshops using "Autocrat". [10-6-20]

Dr. B. Anand Ronald, attended a webinar on "Orthotics and Prosthetics with HP Multi Jet Fusion Technology" by Maryam Qureshi, Applications Engineer, HP 3D team, organised by Redington India Limited [18-6-20]

Dr.K.S.Vijaysekar attended a webinar titled "FUNCTIONALLY GRADED MATERIALS PROCESSING AND APPLICATION" organised by the Mechanical Engineering Department , St. Joseph's Institute of Technology, Chennai, on June 10th 2020. The seminar highlighted the research capabilities of functionally graded metals. alloys and composites as a possible alternate to conventional materials.

Dr.L.poovazhagan attended the following webinars

1.webinar on “Biomimicry – Nature inspired Design Thinking in post COVID-19 world” on 21.6.2020, organized by ASME-India.

2.webinar on “Diverse Applications of Nanomaterials” on 26.6.2020, organized by Sri Ramakrishna Engineering College, Coimbatore.

Research Activity

Dr.K.S.Vijaysekar attended an online DC meeting for a PhD scholar registered in the Mechanical Engineering Department at Hindustan University, Padur on June 5th 2020.

Dr. S. Suresh Kumar has orally presented his research work (two papers) in a national conference (MERS – 2020) organized by Mechanical Engineering Department. The co-authors of the papers are Mr. U. Magarajan and Mr. S. Dharani Kumar (part time research scholars). The titles of the paper are,

1.High Velocity Ballistic Performance of Friction Stir Processed Aluminium (AA6061-B4C) Surface Composite. **(paper ID : 45)**

2.Experimental Ballistic Performance Determination of Friction Stir Welded Magnesium (AZ31B) Targets **(paper ID : 46)**

Thesis submitted

Mr.R. Rajesekaran, Full Time Research Scholar, of Dr. A.K.Lakshminarayanan , submitted his Ph.D thesis titled “Effect of welding processes on microstructural characteristics and mechanical properties and stress corrosion cracking behavior of 316LN austenitic stainless steel joints” on **10th June 2020.**

Mr Renjin J Bright , part-time research scholar working with Dr G Selvakumar, Associate Professor, has submitted his Ph.D. thesis titled 'Preparation and Characterization of AA6082-Metakaolin/Silicon Nitride Hybrid Metal Matrix Composites ' to Anna University, Chennai on 18.6.2020 .

Publications

The paper titled “Electrochemical Micromachining of Hastelloy C276 by Different Electrolyte Solutions” submitted by L.Poovazhagan and his full time research scholar Mr.Gowtham, has been accepted for publication in Arabian Journal of Science and Engineering-Springer, indexed by Clarivate Analytic and AU [Impact Factor 1.518].

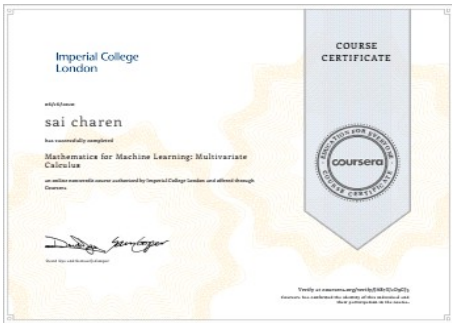
Dr. MS Alphin's research paper titled "Systematic effects of Fe-doping on the activity of V2O5/TiO2-Carbon nanotubes catalyst for NH3-SCR of NOx", was accepted for publication in Journal of Nanoparticle Research, Co-Authors: S Raja and Alphin M S, (2020), [clarivate Impact factor: 2.13]

Dr.K.Rajkumar’s paper titled ' Mechanical and free vibration properties of skin and core designed basalt woven intertwined with flax layered polymeric laminates' has been accepted for publication in Proc IMechE Part C: Journal of Mechanical Engineering Science, SAGE publisher, clarivate analytics Impact factor 1.359

STUDENT ACTIVITIES:

Courses completed

Sai Charen V, of Second Year, completed an online course which dealt with the application of Multivariate Calculus in machine learning in the form of code by plotting graphs using points where the general steps of solving the problem is applied in python coding .



Sivadharshan V, of Second Year , completed an online course in Marketing

Varuna G R, of Second Year , completed an online course on Introduction to Matlab

Naveed Ahamed H, of Second year, Completed

- an online course on Matlab.
- an English course in THE HINDU, and
- an online course on Android app development in Internshala.

K.Venkatesan , of Second Year, completed online courses in Coursera on:

- Big History:Connecting Knowledge
- Write professional Emails in English and
- an online course on Career Edge-knockdown the lockdown in TCS iON.

Vimal Kumar Bharathi B R, of Second Year, completed online courses in Coursera on:

- The 3D Printing Revolution conducted by University of Illinois
- A Crash Course in Data Science conducted by Johns Hopkins University.
- Supply Chain Logistics conducted by Rutgers University.

Dharun S Kumar, of Third Year, completed online courses in Coursera on :

- Six Sigma Principles.
- Six Sigma Tools for Define and Measure.

Omsurya V, of Third Year, completed online courses in Coursera on:

- ➢ Six Sigma tools for define and measure.
- ➢ Design thinking for innovation.

Sathyajhith S S, of Third Year, completed an online course on Improving deep neural networks, structuring machine learning projects

Competitions won

Rohit K, Sabareesh, Viswa Priya, Monisha,of Second Year, won second prize in Stackathon 2.0 conducted by Studymonk for pitching their business idea of delivering books for rent and collecting it back and developed an app and website. [15-6-20]

Other activities

Sam Sherin Raj.S, of Second Year, presented a paper on "Development of indigenous instant water heater based on magnetic induction" at Mechanical Engineering Research Scholars (MERS) Conference.[26-6-20]

Achyuth Ramachandran, of Third Year, presented a paper titled “Detection of Impact-Induced cracks in various GFRP and Hybrid Composites using Near-Field Microwave NDT Method” at the 3rd National Conference for Mechanical Engineering Research Scholars (MERS) 2020. .[26-6-20]

Aneesh Aravind R, Nagalakshmi S, Rishikesavan V, Vithyaa C K M, of Third Year, attended and presented a paper on “Reusing Abrasive Industry rejects (Grinding Wheel - Brown Alumina) to augment the properties of concrete” at the 3rd National Conference for Mechanical Engineering Research Scholars (MERS) 2020. .[26-6-20]

Joseph Anand Raj I.G, Balaji. V, Crispin. C, of Final year, presented a paper in National Conference MERS 2020 @ SSNCE, entitled “Synthesis And Characterization of Ball Milled Inconel 625 Superalloy” co-authored by Prashanth Muralishankar, Dr. Karunanithi. R of Crescent Engg College and Dr. B. Anand Ronald, SSNCE

Ashik Ali A, of Third Year, attended a Virtual Symposia on Digital Simulation for Design and Manufacturing - an Industrial Standard.

Sathyajhith S S, of Third Year, participated in amateur world champion in yoga (Category- 18+ Men).

Courses completed by Faculty

Dr. M S Alphin Completed the 6 weeks online Coursera Training program on Excel Skills for Business by Macquarie University, Australia.

Dr. S. Soma Sundaram, Associate Professor, completed a course titled Understanding Clinical Research: Behind the Statistics, an online non-credit course authorized by University of Cape Town and offered through Coursera.

Dr. S. Soma Sundaram, Associate Professor, completed a course titled Everyday Excel, Part 2, an online non-credit course authorized by University of Colorado Boulder and offered through Coursera.

Dr. A.S. Ramana, Associate Prof., Completed Coursera course on "Introduction to Indoor Air Quality" Offered by Hongkong University of Science & Technology.

Dr. A S Ramana Associate Prof completed a coursera course on Design Thinking for Innovation offered by University of Virginia

Dr.K.Rajkumar, Associate professor, Completed a Coursera online course -Advanced Manufacturing process analysis, from SUNY, The state university of New York.

Dr.K.S.Vijaysekar has successfully completed the following courses on Coursera:

1. Design Thinking for Innovation - University of Virginia :

The course was an introduction to the concept of design thinking and dealt with all the rudiments of innovation that could be used as motivation to use the tools of design thinking successfully. A well crafted and structured course ably delivered by the Darden School of Business at the University of Virginia with the highlight being the case studies that used design thinking to uncover compelling solutions.

2. Inspiring and Motivating Individuals -

University of Michigan

This was a inspiring course on leadership that showed the importance of a shared vision for the project team and how to effectively communicate them. I also learnt how to set effective goals and expectations in a way that best enables the team to attain the shared vision. The course highlighted the importance of good behaviour that could raise the outcomes of the team. An engaging course indeed.

3. Digital Manufacturing & Design - University at Buffalo

I got an insight into understanding the role that technology is playing in the use of digital design and manufacturing. It was surprising that this technology could be effectively employed to good use to everyday problems – whether it is communicating with friends and family, purchasing products or streaming entertainment and can benefit companies and workers to becoming more competitive, agile and productive. The course highlights how this digital approach helps to making products with supreme quality and also makes companies more responsive, employees more involved and engaged and happier. I take this opportunity to thank the SSN management for providing us the wonderful platform such as Coursera to develop our knowledge and skills on areas that are trending and state of the art....

Dr,M.Suresh completed Coursera online course on Positive Psychology

I completed a 6-week Coursera online course on Positive Psychology offered by University of North Carolina [April 21 – June 2, 2020].

I thought this course attracted me because I can learn to further improve myself, to increase my happiness and to serve others with a happy frame of mind.

I attended lectures on the following topics:

Positive Emotions:
The Tiny Engines of Positive Psychology
The Mindscapes and Outcomes of Positivity
The Delicate Art of Pursuing Happiness
Positivity Resonance and Loving-Kindness meditation
The Fruits of Positivity Resonance
The Ripples of Positivity Resonance

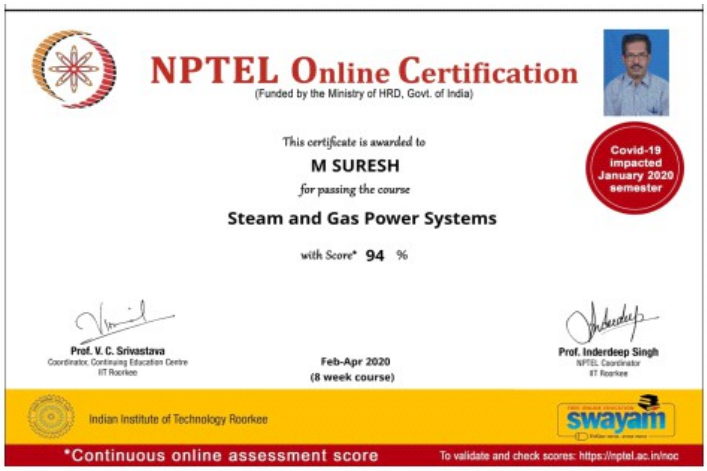
Completed NPTEL online course on 'Steam and gas power systems'

Passed NPTEL online course on 'Steam and gas power systems' [8 weeks] with 94% based on continuous online assessment.

By learning this course, I learnt more about myself, my emotions and I was able to add more positive things to my mind.

This course also created an awareness that when I make others happy, I am also very happy.

This course will definitely help me in managing the students in the class room in a better way and also effective mentoring.



Each Assignment score is for 100 marks:

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
A1 : 93	A1 : 93	A1 : 100	A1 : 100	A1 : 93	A1 : 87	A1 : 80	A1 : 87

Dr. A.K.Lakshminarayanan, Associate Professor, Mechanical, SSNCE)

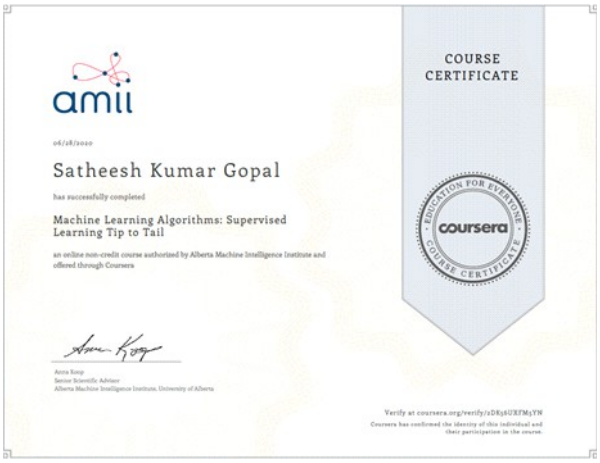
Courses completed in Coursera

1. Advanced Manufacturing Process Analysis 2. Introduction to Mechanical Engineering Design and Manufacturing with Fusion 360 3. Modeling and Design for Mechanical Engineers with Autodesk Fusion 360 4. Introduction to CAD, CAM, and Practical CNC Machining 5. 3-Axis Machining with Autodesk Fusion 360 6. Creating Toolpaths for a CNC Lathe 7. Multi-Axis CNC Toolpaths	AUTODESK® CERTIFIED CREDENTIAL Badge received on 15/6/2020

Completed all the four courses in Audesk CAD/CAM in Manufacturing specialization and obtained a digital badge of Autodesk Credentials.

Dr.K.Babu completed the course in Coursera "Excel Skills for Business: Essentials" by Macquarie University

Dr.G.Satheeshkumar writes...



Dr. Satheesh Kumar Gopal completed the course titled "Machine Learning Algorithms: Supervised Learning Tip to Tail" offered by Alberta Machine Intelligence Institute.

This course is the 2nd out of the 4 course package of the Machine Learning: Algorithms in the Real World Specialization. This course dealt in detail the Supervisory Learning content of Machine learning. Decision trees, KNN and SVM were explained in detail with appropriate hands on sessions. As usual it was nicely packaged content that eats into a month's time at ease. The instructor was very articulative in expressing her knowledge. The next course would be the 3rd in the series: Data for Machine Learning. Looking forward to start this from the 30th of June 2020.

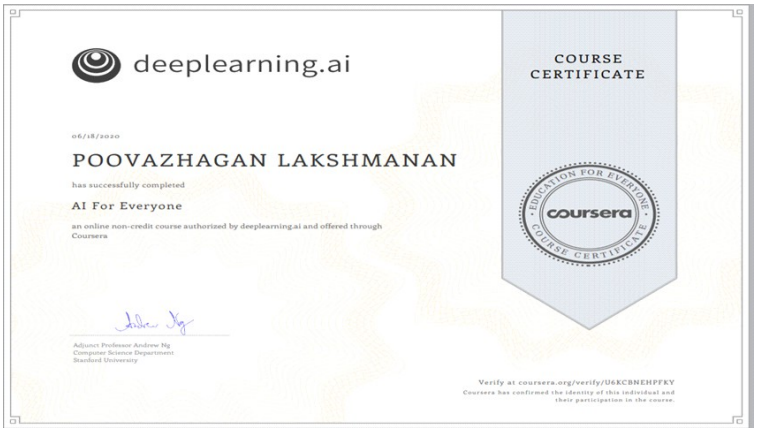
Dr. M. Dhananchezian has completed the online course titled **"Fundamentals of Fluid Power"** with a grade of **100 %** offered by **University of Minnesota** through Coursera**.** It was a six weeks course and the instructors for the course were Dr. James D. Van De Ven, Assistant Professor and Dr. Will Durfee Professor, Mechanical Engineering, University of Minnesota.

The contents for the online course are,

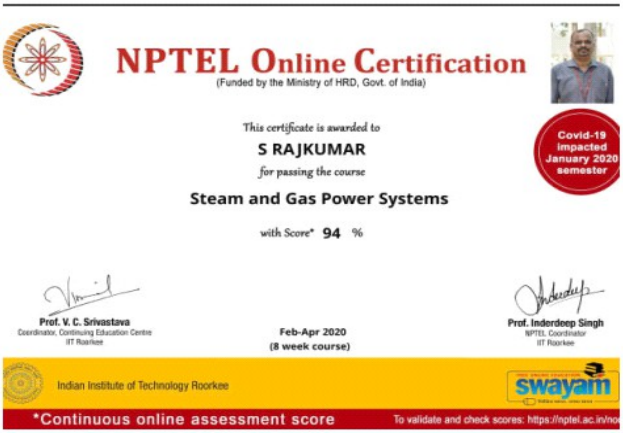
Week 1: Fundamentals of Fluid power and Quiz
Week 2: Components and Concepts Parts I and Quiz
Week 3: Components and Concepts Parts II and Quiz
Week 4: Predicting Performance through Simulation
Week 5: Fluid properties and Quiz
Week 6: Advanced Components and Systems and Quiz

Dr.L.poovazhagan has completed the following three courses thru Coursera

Materials Science; 10 things every Engineer should know	UC Davis
The 3D printing revolution	Illinois University
AI for everyone	Deeplearning.ai



Dr.S.Rajkumar completed a NPTEL course on "Steam and Gas Power Systems" and received a pass certificate for the same. A pass certificate is issued based on assessments with a score of 94%.



Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
A1 : 93	A1 : 93	A1 : 100	A1 : 100	A1 : 93	A1 : 87	A1 : 80	A1 : NA

*NA- Not Attempted

Dr.K.L.Harikrishna successfully completed the course on "**Data Scientist 's Tool box"** through online mode, sponsored by SSN College of Engineering, Kalavakkam, Chennai 603110.

Dr.M.Nalla Mohamed writes about the course completed in coursera:

I have completed a 4 weeks course on "Introduction to CAD, CAM, and Practical CNC Machining" in Coursera platform introduced by Autodesk CAD/CAM for Manufacturing Specialization.

Highlights of the course:

- The course was very useful to learn integrated CAD/CAM in Autodesk Fusion 360.
- It enabled us easy to create and interpret engineering drawing from the 3D models, to understand different tool library, creating and simulating the tool path for different manufacturing operations, and generating CNC codes.
- The course content was quite interesting with videos and learning examples, challenging exercises as course assignments, review of our assignment with 3 external reviewers to complete the course.
- Overall, it was a nice learning experience through COURSERA platform by Autodesk.

Week 1: Autodesk fusion 360 foundational design concept
Week 2: CNC and machining basics
Week 3:Setting up CAM program
Week 4 : Creating CNC program

Coursera Completed by Dr. A S Ramana

1. Introduction to Air Quality

I gained knowledge on characteristics associated with indoor air contaminants such as Particulate matter, Radon, Volatile organic compounds, Asbestos, Bio aerosols, Thermal comfort and building ventilation were also covered. The course was offered by **Dr. Christopher Chao**, Adjunct Professor, The Hong Kong University of Science and Technology.

2. Design Thinking for Innovation

I gained knowledge on design thinking, I learnt tools such as Storytelling Tool, Mind mapping Tool, Learning launch Tool, Visualization Tool to generate innovative ideas. The course was offered by **Dr. Jeane M Liedika**, United Technologies Corporation, Professor of Business Administration, University of Virginia.

Both these courses were useful and informative.

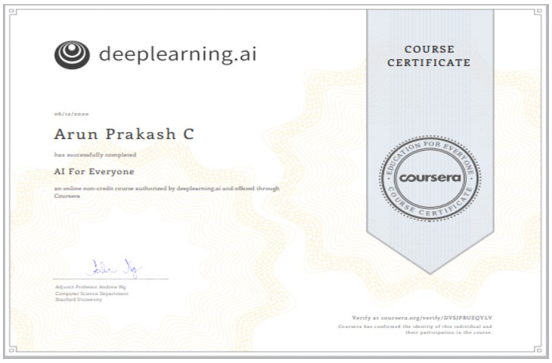
Mr.C.Arun Prakash complete a couse on AI for Everyone.

Key Concepts of the Course

Week 1 – · Introduced Artificial Intelligence and various terminologies of AI.
· Gave an idea about what AI can and cannot do
Week 2 · Described the workflow of machine learning and data science projects
· Explained how to choose an AI project
Week 3 · Explained case studies like Smart speaker and self driving car
Week 4 · Discussed various limitations of AI such as biasing, adversarial attacks and adverse uses of AI
· Also discussed about AI and developing nations, AI and jobs

It is a good course for who wants to know what AI is all about.

The instructor from Stanford University explained all the concepts clearly.



Mentoring Activity

Due to Lockdown, students are away from college and may be in stress.

Mentors have been talking to them over phone and documenting info in certain formats, like
Name
Roll number
Now staying at
Nearby Covid Cases
Internal marks
Whether attending model test
Internet issues
Any other issue
Courses attending in Coursera
Suggestions by Mentor

Based on the difficulties stated, Mentors have been suggesting how to cope with the situation.

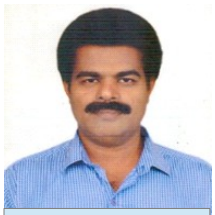
Students are advised to take control of the situation, and see what they can control.

Contributed by R.Ramakrishnan, GMR

Staff Activity

Courses completed by Non teaching Staff of mech dept

Staff Name	Number of courses completed	Name of courses
Mr.S.Nagarajan	8	1.Advanced Manufacturing Process Analysis 2.Digital Manufacturing & Design 3.Covid – 19 Contact Tracing 4.AI For Everyone 5.Renewable Energy and Green Building Entrepreneurship 6.Spreadsheet for Beginners using Google Sheets 7.Introduction to Mechanical Engineering design and Manufacturing with Fusion 360 8.Machine Learning for All
Mr.B.Bharathi	7	1.Introduction to CAD, CAM, and Practical CNC 2.Introduction to Mechanical Engineering Design 3.Advanced Manufacturing Process Analysis 4.Digital Manufacturing & Design 5.Introduction to Google Docs , 6.Getting Started with Google Sheets , 7.Spreadsheets for Beginners using Google Sheets
Mr.M.Giridharan	3	1.Modeling and Design for Mechanical Engineers with Honors. 2.Introduction to CAD,CAM and Practical CNC Machining 3.3-Axis Machining
Mr.M.Subramani	3	1.Advanced Manufacturing Process Analysis 2.Getting Started With Google Sheets 3.Write Professional
Mr.P.Nandhakumar	2	1.Advanced Manufacturing Process Analysis 2.Getting Started With Google Sheets
Mr.M.Krishnasamy	1	1.Advanced Manufacturing Process Analysis
Mr.J.PonmuthuRaja	1	1.Advanced Manufacturing Process Analysis


Mr.S.Nagarajan


Mr.B.Bharathi


Mr.M.Giridharan


Mr.M.Subramani


Mr.P.Nandhakumar


Mr.M.Krishnasamy


Mr.J.Ponmuthuraja

Workshop, webinars and FDP attended by Nagarajan S, Lab Instructor,

1. **Received a Certificate of Appreciation** for attending "**GREEN TECHNOLOGY for SUSTAINABILITY**" Quiz, conducted by the Department of Humanities and Science at St. Xavier's Catholic College of Engineering, Nagercoil on 15 June, 2020 with 75% of Marks.

2. Participated **National level Webinar on" DESIGN OF EXPERIMENTS"** conducted by Department of Mechanical Engineering at Christu Jyothi Institute of Technology & Science, Colombonagar, Yeshwanthapur, Janganon, on 22 June, 2020.

3. Completed a course for "**Mechanical Engineering - Internal Combustion Engine Basics"** in **Alison**.

4. Completed a course for "**Thermal Modeling of solar energy system**" in **Udemy**.

5. Participated live webinar on "**Career Opportunities & Future Trends in Cyber Security"** on Tuesday June 2, 2020, Organised by **UPES University** Dehradun**.**

6. Participated in a live webinar training session on "**Robotics and Mechanical Engineering"** on Thursday June 4, 2020, Organised by Amria Vishwa Vidyapeetham, Coimbatore.

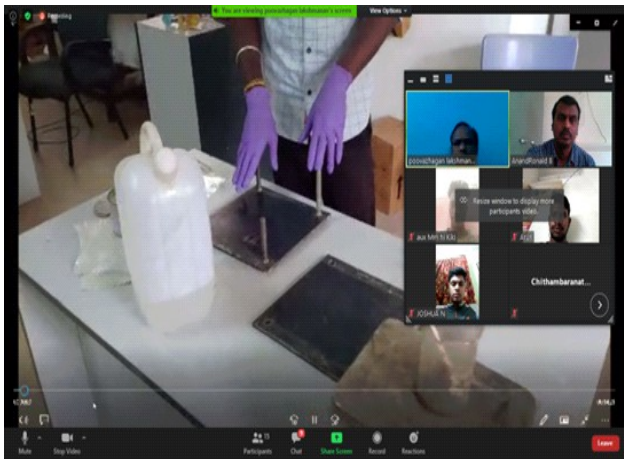
7. Participated in the **Five Days Online course** for the "**Employability Enhancement skill Development on CNC Machining**" Conducted by **AVIT and Kriatec Services Private Limited**, Chennai, from 15/06/2020 to 19/06/2020.

Faculty write up on Workshop Conducted

One Day ONLINE workshop on
"*Fabrication of Polymer Matrix Composites*"
12 June 2020

The One Day workshop on "*Fabrication of Polymer Matrix Composites*" was initially planned on 17 March 2020. But due to the situation prevalent that time and college was closed for students from that date, we had rescheduled and the workshop was finally held on **12 June 2020**.

The Co-ordinators of the Workshop were **Dr. B. Anand Ronald, Dr. K. Rajkumar and Dr. L. Poovazhagan**. The first session was handled by *Dr. B. Anand Ronald* on the Introduction, Hand Lay up and Spray up technique.



The next session was handled by *Dr. L. Poovazhagan on Introduction to Polymer Matrix Composites,* followed by a session by *Dr. K. Rajkumar* on Conductive Polymers and Polymer Blends. In the interim session (video) a live demonstration on fabrication of Polymer Matrix Composites was given on making **FRP Laminates** by Mr. Vishal, Research Scholar.

Dr.K.S.Vijaysekar writes..

I organised a Webinar on "Simulation Driven Engineering Best Practices & Vibration Analysis using Ansys " in collaboration with Innovent Engineering Pvt. Ltd. on 19th June 2020.

The program was attended by over 40 faculty and students from SSN and other colleges and was well recieved. The presentations on Vibration analysis in particular with the dual approach of theory and simulation evidence demonstrated by Mr.Avinash, CEO of Innovent was in particular interesting and many participants cleared their doubts on this.

The questions were collated by me and sent to Innovent team and they were kind enough to address each of them which was shared to the respective participants.

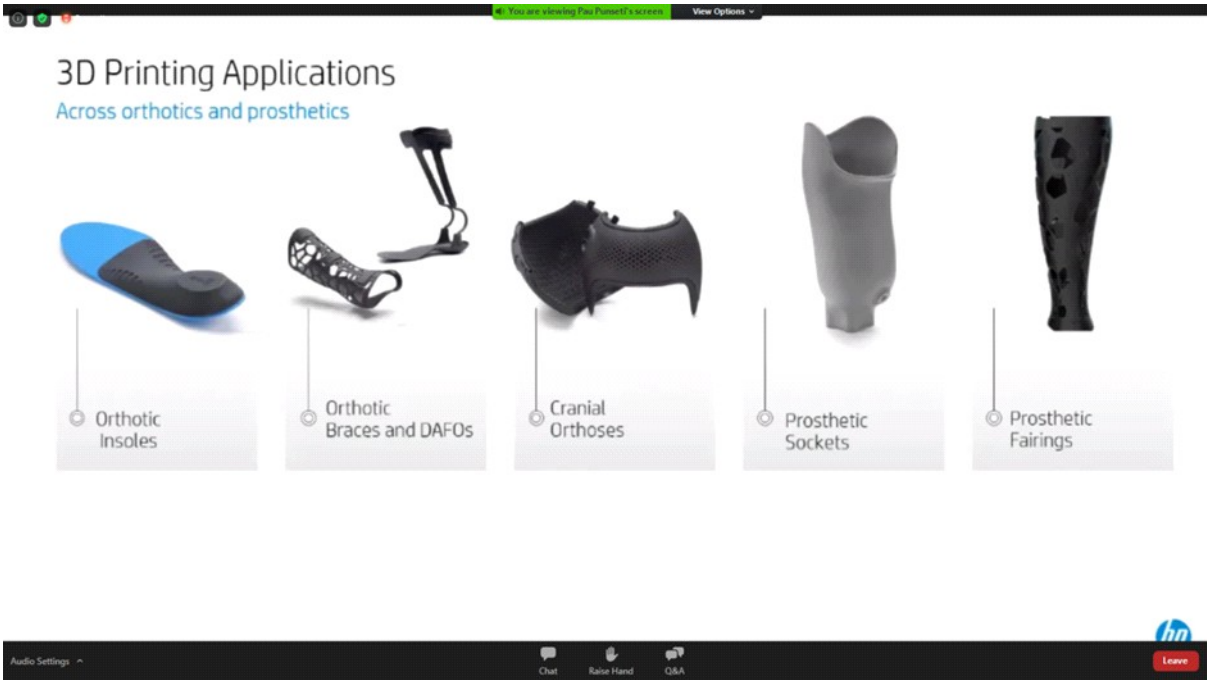
A snapshot of the feedback is attached here:

1. Prof. Mrunal Deshpande, EEE, SSN - Very nice presentation n explanation
2. Akhil C. Kuriakose, MECH, SSN Student - Excellent take on vibration. Particularly liked the math in Castigliano's principle. Sir, can you suggest some materials (textbooks or online sources) that particularly have practical applications with theoretical underpinnings? Thank you so much, in advance.
3. Prof.Easu, D,Mech, KCG College of Tech - Thank you for the excellent presentation sir Thank you Dr.Vijayasekar sir for arranging this webinar
4. Asso. Prof Anbuselvi M., ECE, SSN - Clear and Absolute practical session. Thank you
5. Giridharan M, Lab Asst., MECH, SSN - nice session sir. thank you
6. Plakeel Kurian, MECH, SSN Student - It was a very nice session. Thank you for organising this.
7. Balasundaran, Lab. Asst, MECH, SSN - I participated , useful seminar sir, A very good chance to update a good software, simulation part, Great thanks to you sir.

Faculty Write up

WEBINAR ATTENDED

Dr. B. Anand Ronald, attended a webinar on 18 June 2020 @ 2.00P.M, titled "***Orthotics and Prosthetics with HP Multi Jet Fusion Technology***" by **Maryam Qureshi**, Applications Engineer, ***HP 3D team***, organised by **Redington India Limited**. The speaker touched upon 3D Printing applications across the Orthotics and Prosthetics domain including Orthotic insoles, Orthotic braces and DAFOs, Cranial Orthoses, Prosthetic sockets, Prosthetic fairings.



Then he touched about the different methods for manufacturing of personalised insoles namely manual, semi-digital and digital, Justification for insoles, orthotics and prosthetics using 3D printing. Theron the speaker dwelt about HP Multi Jet Fusion 3D Printer and Multijet fusion technology; also about the 3D Printing of Gears, materials used for printing, biocompatibility certification required for such products. Finally the speaker talked about the different companies involved in the manufacture of Orthotic and Prosthetic devices and the products they manufacture.

Faculty Write up

WEBINAR ATTENDED

REPORT ON WEBINAR ON SMART MANUFACTURING IN THE ERA OF INDUSTRY 4.0 11.15 A.M-1.30 P.M ON 03/06/2020-Dr.D.ANANTHAPADMANABAN

The session was handled by Rohan Joshi ,Director ,BIZM Consultants Pvt Ltd,and he started with the 9 technology blockers., out of which the two blockers Augmented reality and Virtual reality where discussed in detail with videos. The history of Industry 1.0 up until Industry 4.0 was given and it was emphasized that Industry 4.0 has grown much faster than Industry 1.0,2.0 and 3.0.Industry 4.0 is wholly dependent on digitalization and many company owners like Uber and Airbnb do not have any real assets.

The robots of Industry 3.0 have become cobots of Industry 4.0.Individual simulations have been replaced by virtual simulation of the whole factory from A to Z before even starting the factory. It was emphasized that automation and smart manufacturing are not the same. Closed loop manufacturing was explained with the presence of the IOT layer which relays all information real time to the manufacturers. The webinar ended with a brief on IIOT(Industrial Internet of things) which are used in Manufacturing operation, Production asset management and field services.

REPORT ON WEBINAR HOSTED BY Dr.SANTANU MITRA ,SHIV NADAR UNIVERSITY 7.00 P.M TO 8.00 P.M ON 03/06/2020-Dr.D.ANANTHAPADMANABAN

Dr.Daniel Inman, Professor, University of Michigan spoke on Avian inspired smart unmanned vehicle. He showed some videos on how birds react to gusts of wind and other wind conditions. He and his group have done extensive simulations on smart materials used in aerofoils and wind tunnel studies. One new area of study that was identified is rudderless aircraft, again inspired by birds. Smart materials based on microcomposites and piezoelectric materials were also discussed. Dr.Inman was frank enough to admit that though smart materials ,in general were heavier than normal materials used in aircraft, they gave advantages in performance and this advantage outweighed the disadvantage of weight.

For me what stood out from his short presentation of around 30 minutes was his humility. Dr.Inman has 44,000 citations on google scholar, but he gave all credit to his students for the work. His team seems to be spread over Stanford University, University of Texas, University of British Columbia and in Switzerland. Interestingly, a bird trainer from BBC was also part of his team and it was very nice to see the group photograph of his entire team of around 15 members. This 73 year old Professor should inspire us, relatively younger researchers to work with more enthusiasm .

6 DAYS FDP ON ADVANCES IN MACHINING CONDUCTED BY SATHYABAMA UNIVERSITY JOINTLY WITH INDIAN INSTITUTE OF PRODUCTION ENGINEERS-CHENNAI CHAPTER-A REPORT BY Dr.D. ANANTHAPADMANABAN (22/06/20 to 27/06/20)

DAY 1- The FDP was inaugurated by Dr. Thirunavukkarasu, President, IIPE-Chennai Chapter and the session was handled by Dr.G.L. Samuel, Professor, I.I.T, Madras.

Dr.Samuel stressed on the trends in miniaturization starting from the first computer ENIAC until the present day smart watches ,mini petrol Engines, microshafts and microservo motors. He gave the significance of miniaturization in terms of efficient utilization of space, easier control of waste and pollution, reduced capital investment and high speed data transmission, to name a few. He elaborated on a few micromachining technologies like Mechanical micromachining, Focussed ion beam machining, femto second laser, micro EDM, Diamond milling and micromachining. Dr.Samuel also talked about vibration being the major problem in

micromachining and demonstrated through a video how to inspect microcomponents using NanoCMM.

DAY 2-Mr.Sriram Nagarajan, Founder, Roboram handled the one hour session.He started with the transition from robots to cobots. He mentioned about the role of McKenzie in implementing Industry 4.0 and emphasized that large amounts of data have to be effectively shared among people. Cobots will not replace human beings ,but will be used as an effective tool to handle repetitive work. A useful discussion was made in the presentation about the need of new technology and shortfall of existing technology. Two important points mentioned were safety and redundancy of skilled workers. Componemts of a cobot, namely Cobot, Co-worker and Environment of workstation were highlighted. Some practical uses for cobots are in product testing, Pick and place, dispensing and assembly line. Two cobots, namely the dual arm from Asia Brown Boveri(ABB) and Nextage from Kawada Industries were explained in the presentation.

DAY 3-Dr.Sathiyan Subbiah, Associate Professor, I.I.T, Madras handled this session. The topic was Hybrid Additive Subtractive(HAS) Manufacturing, which is not new and has been in vogue from 1998. In order to improve overall shape accuracy, surface finish and properties, HAS manufacturing is being used nowadays. He used the analogy of clay modelling ,which is used in a widespread way, in car manufacture .Some examples of HAS manufacturing are-High speed milling and laser cladding, Powder bed Additive manufacturing and milling, Selective laser melting and machining. Most of the commonly used metals have been manufactured using HAS. Japanese companies like DMG Mori, Matsuura and Okama manufacture HAS machines and a few videos were shown demonstrating the process.

DAY 4-Dr.S. Ramesh, Professor, Department of Mechanical Engineering, Presidency University, gave a talk on intelligent manufacturing. Machine tools wear over time and their efficiency in systems also decreases. Hence, the use of sensors and controls help this regard. Intelligent machining is Integrated Health Monitoring. Use of sensors helps to achieve higher quality, productivity and make smarter decisions. Machine learning systems search through big data to learn patterns in the data and these patterns are used to make predictions or recommendations in the light of new data. Big data involves high volume, wide variety and high velocity. Commercially available software like WinSPC and,Open CNC are now available to model Intelligent machines. There were a few questions asked in the middle of the presentation and many videos were also shown during the presentation.

DAY 5-Mr.Ramani Balakrishnan, General Manager, GM Pens, Chennai and Secretary, IIPE, Chennai Chapter handled the session. He talked about advanced manufacturing from an Industry point of view. He coined a new term high strength temperature resistance to weight ratio. The talk revolved around Automated material handling systems, Automated Guided Vehicles systems and advances and applications of deep learning. Mr.Ramani talked about 3D printing and holographic 3D printing. He also introduced concepts like second hand, VR headsets and recycling robots. Robots can be programmed to behave like humans and an Indian start up Drishti is doing a lot of work on this aspect. He concluded by saying that we can survive in the global market by having Institute-Industry and Industry-Industry co-operation. A few videos were shown demonstrating advanced manufacturing techniques in Germany and Japan.

DAY 6-Dr.S.Prakash, Dean**,** Sathyabama University talked about his research work on applications of Research Surface methodology and Taguchi tehniques to drilling of wood composites. Even though one was familiar with these methods, technical terms like thrust force, surface roughness, delamination, debonding and grey relational analysis gave the participants new ideas for their research.

In all there were 132 participants and their attendance was monitored daily by asking us to fill a google sheet for feedback . Dr.Thirunavukkarasu, Chairman, I.I.PE, Chennai chapter gave the concluding remarks for the 6 day FDP. 2 of the participants-Dr Sellapan, HOD, Salalah Institute of Technology, Oman and Dr. Sheina Sekar, Professor from Bhilai, Madhya Pradesh gave feedback about the 6 day program. Dr.G..Arunkumar, HOD-Mechanical Engineering proposed the vote of thanks and I gained a few contacts and ideas for my research work.

Dr.M.Nalla Mohamed writes about the webinars attended:

A webinar on Functionally graded materials processing and application" Organized by St.Joseph 痴 Institute of Technology, Chennai, on 10th June 2020.
A webinar on "Recent advancement in metal based additive manufacturing process" Organized by St.Joseph's Institute of Technology, Chennai, on 24th June 2020.
A webinar on "Recent research and development in additive manufacturing" Organized by Amal Jyothi College of Engineering, Kottayam, on 25th June 2020.
A workshop on Recent Research Trends in Mechanical Engineering Organized by SSN College of Engineering, Chennai, on 25th June 2020.

Dr. K. Jayakumar has attended National Level **5 days online Short Term Training Program (STTP)** on "**Recent Advances in Smart Manufacturing Technologies"** from **15th to 19th June 2020** organized by **Department of Mechanical Engineering, Padmashri Dr. V.B. Kolte College of Engineering, Maharashtra.**

The STTP covered Industry 4.0, Virtual Reality, Advanced Automation, Smart materials and their applications, Rapid advances in Micro & Nonconventional Machining, IoT, 3D printing, etc.

In each session, link for attendance and feedback were given. At the end of each day, online Quiz exam was conducted related to the topics covered

MERS Conference - Online

Mechanical Engineering Research Scholars' Conference (MERS) was conducted on June 26. A pre-conferenec workshop was conducted on June 25.

Organisers

Mr.C.Arun Prakash

Dr.K.S.Jayakumar

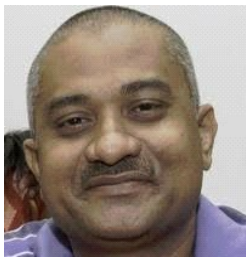
Dr.A.S.Ramana

Dr.Vimal Sam Singh

A one day **Workshop** on **"Recent Research Trends in Mechanical Engineering"** was conducted **online** on **25th June, 2020 (Thursday)** by **Mr. C. Arun Prakash, Dr. K. Jayakumar, Dr. A. S. Ramana and Dr. R.Vimal Samsingh**, Associate Professors, Dept. of Mechanical Engineering.

The workshop was organized in Google meet and YouTube live streaming modes. Initially 335 participants registered and finally 182 participants attended the workshop. Majority of them are from Anna University, Bharat University, Hindusthan college of engineering and technology, Coimbatore, IIT Madras, MIT Chrompet, Panimalar Institute of Technology, Rajalakshmi Institute of Technology, Rajalakshmi Engineering college, Sathyabama University, Saveetha Engineering College, Chennai, SRM University, SSN College of Engineering, St. Joseph's College of Engineering, Vel Tech Rangarajan Dr.Sagunthala R&D Institute of Science and Technology, VIT, PSG Tech, few industries and colleges from Hyderabad, Bangalore, etc.

The keynote address was delivered by **Dr. Santhoji Katare,** General Manager, Ford Motor Company from 10.15 am to 11.15 am. He talked about "**Towards a Successful Career in the Automotive Industry**". More than 140 participants attended the presentation and asked questions at the end of the session.



Dr. N. L. Parthasarathi, Scientist officer – E, IGCAR-Kalpakkam delivered a lecture from 11.30 am to 12.30 pm on "**Career, Research opportunities in IGCAR & Recent advances in metal forming**" through You Tube streaming. More than 95 participants attended the presentation.

Mr. Vengadesh Narayanan, Principal Business Consultant, Fhyzics Business Consultant talked about the "**Inventory optimization professional-Prospective career in Industry**" from 2 to 3 pm and appreciated by all participants.

The fourth lecture was delivered by **Dr.V.E. Annamalai, Professor/HOD, Department Mechanical Engineering** on "**Converting Research into Patent**" from 4 to 5.00 pm through You Tube streaming. More than 100 participants attended and got benefited. The link of the talk is permanently available in the link (https://bit.ly/ConvertingResearchintoPatent).

More than 30 participants interacted immediately after each You Tube streaming to all the keynote speakers for Q&A session lively through Zoom meet. The entire event went smoothly without delay through Zoom, Google meet and you tube streaming concurrently. Thanks to participants and organizers for the new online event experience.

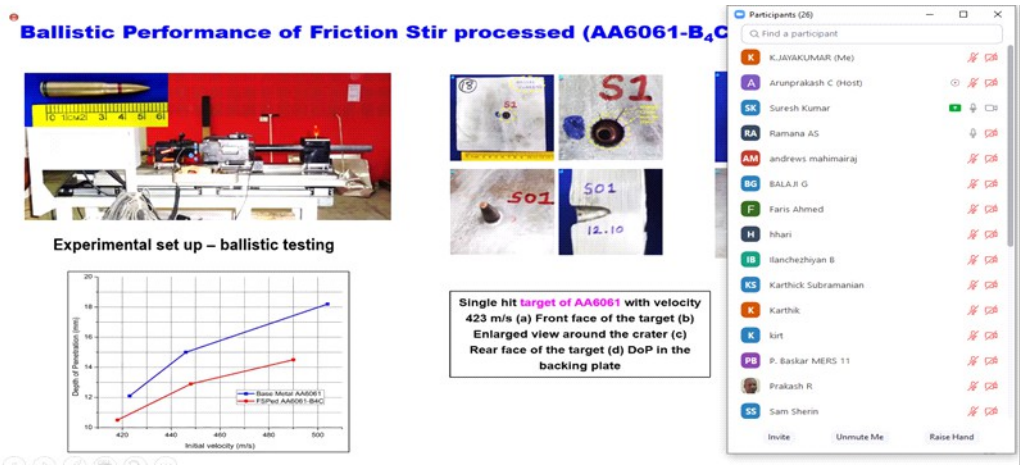
The **3rd National Conference for Mechanical Engineering Research Scholars (MERS-2020)** was successfully organized by the Department of Mechanical Engineering, SSN College of Engineering on **26th June 2019 (Friday)** with the financial support from SSN Management. **The entire event was organized in online using Zoom App.**

The conference was planned initially on March 20, 2020 itself and **received 75 abstracts.** We requested 5 authors to resubmit the abstract after plagiarism check. Due the Covid-19, the conference has been postponed to 26th June 2020. Out of 75 participants, **nearly 55 participants** were accepted for online presentation for the conference. Colleges registered for this conference are : IIT Madras, Rajalakshmi Engineering college, SVCE, Pondicherry Engineering College, Annamalai university, SRM university, Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology Chennai, Bannari Amman Institute of Technology, SSNCE, etc.

The conference was started with inaugural talk from **Dr.V.E. Annamalai, Professor/HOD**. During the event nearly 40 participants actively involved for the presentation. The morning session was conducted in the area of Materials and Manufacturing Engg., and 13 papers were presented from 10.00 am to 1.00 pm.

The afternoon session was conducted in the area of Thermal and Design Engineering and 12 papers were presented from 2.00 to 5.00 pm.For each session, **three best papers** were selected for encouraging the participants.

Dr. K. Jayakumar, Dr. A.S. Ramana, Dr. R. Vimal samsingh, Mr. C. Arun prakash Conveners of this conference heartily express their deep sense of gratitude to our Management, Principal, Head of Department, Participants, faculty members of the department encouraged their students to present their research work and all those who helped us to organize this National Conference and made it a grand success.



Snapshot of a presentation by student teams

Faculty write up about preconference workshop attended (By Dr.S.Sureshkumar)

Dr. S. Suresh Kumar has attended a pre-conference workshop titled **"Converting research into patents"** delivered by Dr. Ve. Annamalai in June 25, 2020. In his presentation, Professor mainly covered the following important aspects of patent.

1. Difference between research papers and patents
2. How to patent search?
3. Evaluation of patentability of a given work.
4. How to plan to convert our papers into patents?

- Similar to utilization and protection of our own properties (land and building) how to use the patents for manufacturing of products, selling the patents for higher value, giving license to other to develop the product has been highlighted.
- In addition the difference between property (which is defined by physical boundaries) and intellectual property (which is defined by description of our claim) was also understood.
- Similarly the difference between patent, design trade mark and copyright with respect to particular product was explained in a simplified way.

Indian Universities and patents

NIRF 2017 data

Institute	Granted	Published	Income
IIT-M	33	234	388.49 L
IIT-B	66	317	572.00 L
IIT-KGP	11	102	68.24 L
IIT-D	32	95	52.65 L
IChemTech	8	4	150.00 L
Anna Uty	11	17	18.98 L
VIT	1	18	--
BITS Pilani	0	5	--
Sastra Uty	1	11	--
SRM Inst	3	21	--

- The importance of “uspto” patent search website and search procedures were understood very clearly with a simple example.
- Also cost involved in filing a pattern, maintaining a pattern and its renewal was discussed and the importance of gaining a revenue from the filed pattern was realized.
- Finally the detailed steps to be followed for the conversion of journal papers into patentable product was learned from the presentation.
- It is surprising to know about the no of patents owned by the Indian universities and private universities.
- The link of the talk is permanently available in the link (https://bit.ly/ConvertingResearchintoPatent).

Following 2 papers coauthored by Dr A S Ramana, Asso Prof. were presented in SSN MERS 2020 national conference.

1. Investigation of Agro product using Solar Dryer and Tray dryers by Mr. C Logeshwaran ME (Energy) student.
2. A Review on Thermography Assessment of Building by Mr. Faris Ahmed NDF (PhD FT scholar)

Student write up

SANJEET CHOUDHARY KAKARLA

completes eleven courses in Coursera

I always had the passion for optimization and reduction of wastages in a manufacturing environment. Lean and Six sigma are very important methodologies to achieve perfection and to prevent defects. I had previously completed a yellow belt certification in Six sigma from TUM and was searching for a credible organisation to pursue the green belt. There were many institutes offering this but the fee was really high. Thanks to SSN , I had the opportunity to pursue the green belt from Coursera for free . I learnt a lot from this as it bolstered the foundation I had built during the yellow belt course. I have also completed courses on Excel and Tableau as I wanted to learn more about data visualization and analytics.

Duke University	Data Science Math Skills
	Business Metrics for Data driven Companies
	Mastering Data Analysis in Excel
	Managing Big Data with MySQL
Yale University	Financial Markets
UCDavis	Fundamentals of Visualizatin withTableau
Higher Sch of Economics	Stochastoc Processes
University of Georgia	Six Sigma and the Organization (Advanced)
	Six Sigma Advanced Define and Measure Phases
	Six Sigma Advanced Analyze Phase
	Six Sigma Advanced Improve and Control Phases

Six Sigma Green Belt Specialisation

Mr. M. Nitish of First Year writes…

I am Nitish M, first year B.E. Mechanical Engineering student. Recently I participated in a quiz conducted by K.S. Rangasamy College of Technology on June 14th 2020 during the time of COVID-19.

My teacher **(Dr. P. Nagapandiselvi, Asst. Prof, Dept. of Physics)** recommended the quiz to me. The quiz was based on General physics that we come across in our daily life and that we have studied in our previous grades.

Participants scoring above 40% will receive a certificate. I gave the quiz a shot and secured 85% and received a **certificate as a token of appreciation**.

I would like to share this small achievement with you which has encouraged me to attend more events like this.

K.S.RANGASAMY COLLEGE OF TECHNOLOGY

(Autonomous)
Tiruchengode-637215. Namakkal Dt. Tamil Nadu.

Unlock 1.0
Web e-Quiz
"GENERAL PHYSICS"

CERTIFICATE OF APPRECIATION

This is to certify that Mr. Nitish M

of Sri Sivasubramaniya Nadar College of Engineering

has participated and qualified in Unlock 1.0 Web e-Quiz on "General Physics" organized by the Department of Physics, K.S.Rangasamy College of Technology on 14 June 2020, and scored 85 %.

Prof. V.MOHAN
HoD / PHYSICS

Prof. M.MANI
HoD / S&H

Dr.R.GOPALAKRISHNAN
Principal / KSRCT

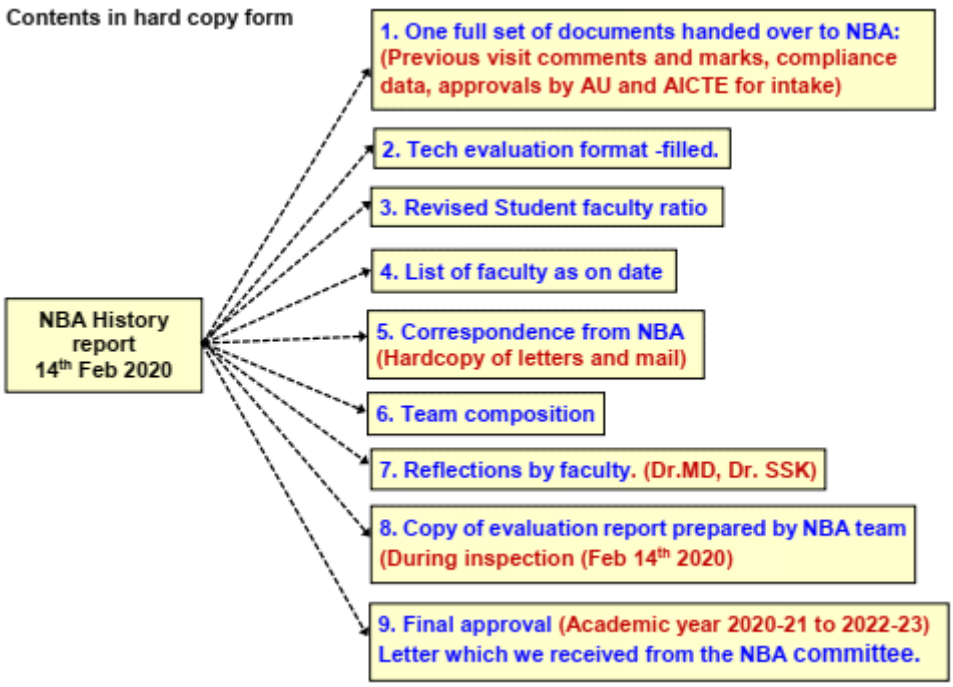
Dr.P.Nagapandiselvi
Physics Dept

Dr.S.Sureshkumar writes on the new initiative- documenting history

NBA

Preparation of NBA History report (for the NBA visit happened in 14th February 2020)

Based on the NBA inspection which happened in 14th February 2020, a **NBA history report** has been prepared as per the guidance of our HoD. Generally it is important to document, whatever happened during the academic audit or committee visit. As per this practice, a NBA history report was prepared and definitely this report will be used for our future reference and the hard copy contents of the reports are listed below.



In addition, the **softcopy** of the following contents are also maintained in a separate folder of our department library system.

1. Detailed compliance report
2. NBA reflections - Dr. VeA
3. Faculty reflections - (Dr.MD and Dr.SSK)
4. Letter received from NBA on March 05th 2020
5. Student Faculty Ratio (SFR)
6. Faculty list
7. Compliance evaluation form without marks
8. Compliance report.
9. Evaluation Report

The main purpose of the history report is, faculty members can come to know about the happenings (feedback, comments, requirements and actions taken) of the past visit at any point of time.

Mech Marvel - 67

Portable unit for sea water desalination

Whether they're adventure travellers or people living in developing nations, many folks may find themselves near the ocean and in need of drinking water. That's where the QuenchSea is designed to come in, as it's a portable, relatively inexpensive desalination device. Developed by British company Hydro Wind Energy, the QuenchSea can be carried in a backpack when not in use, tipping the scales at a claimed 700 grams (1.5 lb).

To operate the device, users start by sliding a foot pad out from its underside, pulling a telescoping lever out from its handle, attaching that lever to an integrated pump, and running out two attached silicone tubes – one of those tubes goes into the ocean, while the other leads to a bottle or other water-collection vessel.

From there, it's simply a matter of stepping on the foot pad to hold the device in place, and pulling the lever back and forth. Doing so draws water in from the sea, through the QuenchSea's triple filtration system, and out into the bottle.

The filtration system is claimed to capture viruses, bacteria, microplastic particles and other contaminants, plus it utilizes a reverse osmosis membrane to remove up to 98 percent of the salt – one $10 membrane should be good for treating up to 18,000 liters (4,755 US gal) before needing to be replaced. Additionally, activated carbon is used to minimize off-putting tastes or odors.

According to its makers, the QuenchSea can desalinate over 2 liters (0.5 US gal) of water per hour on average, or up to 3 liters under ideal conditions. The resulting drinking water is said to meet World Health Organization standards.

Source:
https://newatlas.com/outdoors/quenchsea-portable-desalination/?utm_source=New+Atlas+Subscribers&utm_campaign=30e2c58f71-EMAIL_CAMPAIGN_2020_06_18_08_16&utm_medium=email&utm_term=0_65b67362bd-30e2c58f71-76683587

Corporate Story 67

NAYAN TECHNOLOGIES

Founded in the year 2015, Nayan Technologies has taken the initiative to detect traffic violations and improve road safety by applying AI on crowdsourced video data. Jayant Ratti, the founder and Managing Director is also credited with having started two other companies both aligned with the domains of technology and innovation.

This unique startup backed by Dubai Future Accelerators, also gained a spot in Google's Launchpad Accelerator programme and went to win the Startup of the Year 2019 award at GITEX. Nayan's product helps Road Safety and Traffic Monitoring through real-world visual monitoring using cameras. The platform created allows people without a stable income, ones with disabilities and even auto/taxi drivers to earn daily cash rewards and incentives in exchange for real-time navigational information.

Through this initiative, they are able to detect over 1000 violations an hour and provide livelihood to over 100 families below the poverty line. They currently operate out of their headquarters in New Delhi and also have offices in Dubai, UAE and Atlanta, USA.

Website: https://nayan.co

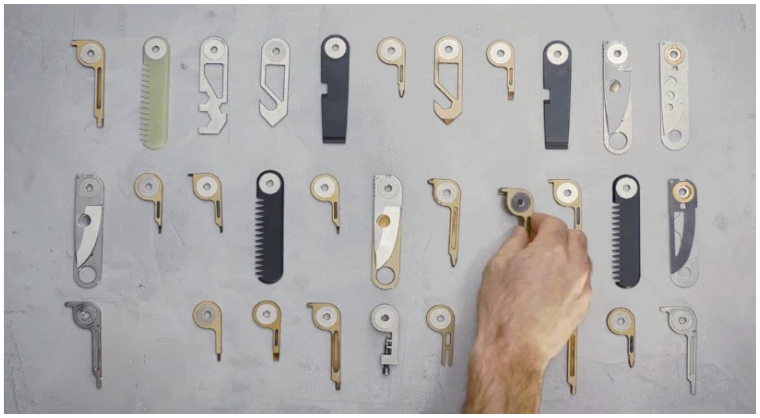
Amazing Innovation- 169

Mobile with in-built thermometer

The smartphone has replaced so many objects already, including cameras, scanners, flashlights, credit cards and money, and GPS navigational systems. Now, you can have an IR thermometer in your mobile phone. The Chinese technology giant Huawei has an intriguing solution: build a thermometer right into your phone. As spotted by Ars Technica, Huawei's new Honor Play 4 smartphone features an infrared temperature sensor within its rear-facing camera block. So you can hold the $420 phone up to someone's forehead and check for a fever, just as easily as you might take their photo.

Amazing Innovation- 170

Modular Magnetic Multitool



Created by British designer/engineer Douglas Windeler, the setup consists of multiple tools of the sort that you would find on existing multitools. Most of them are made of aerospace-grade hardened titanium, and they all incorporate a stainless steel-coated neodymium magnet.

Users select the tools that they require for a particular activity, then stack them one on top of the other. The magnets hold that stack together while it's in a pocket or backpack, but when a particular tool is needed, it's simply pulled out and used on its own.

Amazing Innovation- 171

Smart Cradle

Getting a good night's sleep is not normally listed among the joys of parenting, and anything that could help your baby and yourself catch some extra rest is worth a look. The Cradlewise cradle is designed to do just that, by automatically bouncing waking babies back to sleep. Utilizing a built-in night-vision camera and microphone, Cradlewise monitors baby and, over time, its artificial intelligence-based software develops a sleep profile for the child, establishing its typical bedtime and waking-up time(s). If the baby shows signs of waking prematurely – such as opening its eyes, or moving around more – Cradlewise responds by gently bouncing its bed up and down, in the same manner that a parent might bounce the infant in their arms. At the same time, the cradle emits white noise from an integrated speaker. Once the AI system determines that the baby has gone back to sleep, the bouncing ceases and the white noise is replaced by light instrumental music.

Watch the cradle in action at https://youtu.be/9_-Yx4tPqP0

Amazing Innovation- 172

3D print and Play toy

3Doodler has launched a 3D printing pen specifically designed for pre-schoolers and above. The 3D Build & Play package comes with a low-heat drawing device, character and accessory molds and colorful backdrops to encourage learning through play. The first 3D printing pen from 3Doodler, which allowed users to draw three dimensional creations by forming shapes from extruded plastic, was the subject of a very successful Kickstarter in 2013 and has since been followed by a number of devices and accessories. We got to try the original at CES 2014, and one aimed specifically at kids a year later. With 3D Build & Play, they are giving children the freedom to come up with unique ideas without adhering to structure or rules, while at the same time helping them to develop leadership, focus, confidence, and out-of-the-box critical thinking skills.

The printing device at the heart of the 3D Build & Play package kinda looks like a toy cordless drill. The user switches on the battery-powered unit, pops a strand on colorful BPA-free, non-toxic plastic in the feeder at the back and then turns the hand crank (which can be mounted for left- or right-hand users) to extrude the pliable, safe to touch material into character or accessory molds.

When hardened, the pieces can be connected together to form models, which can be used with a themed story book (or upcoming app backgrounds) for creative adventures.

Alumni Info

Kartik Mukundan, 2009-13 batch,
joined Ashok leyland,
left for MBA at Fisher College of Business
(Ohio State Unversity) in 2018 and now
in Amazon as Incoming Pathways Operations Manager.

What made Kartik such an invaluable addition to the Class of 2020?

"Kartik Mukundan is not just a great student and professional, he has gone out of his way to assist those around him and contribute positively to the Fisher culture. In his work with The Risk Institute, one of our important business centers on the Fisher campus, Kartik worked with partners across the campus on distracted driving research. His exceptional ability to analyze and present findings from challenging data have cemented his legacy as a top-notch graduate assistant. Moreover, he is known to be a calming and helpful friend to peers as they work through the challenges of the MBA."

Roger Bailey
Co-director FTMBA

Read more at

https://poetsandquants.com/2020/05/31/2020-mbas-to-watch-kartik-mukundan-ohio-state-fisher/?pq-category=students

Career Guidance chat with Alumnus

(forwarded by Dr.K.S.Vijaysekar)

I hope you are doing well in this challenging time.

I am Surya Bharathi Thangavelu, and I am an SSN mech alumnus. I graduated in 2017. I am doing my masters in Power Engineering at TU Munich, Germany. Currently, I am in the final stages of my master's program, and I will be submitting my thesis soon. After my masters, I am planning to do a PhD program, but I have mixed feelings about it. To make an informed decision, I want to know more about the PhD program–workload, benefits, application, etc.

I would be happy if you could share your insights and experience with me. We could schedule a skype call or a phone call based on your convenience in the upcoming days. Could you please tell me if it is feasible for you?

I am looking forward to hearing from you.

Best regards
Surya Bharathi Thangavelu
(MSc cand.) Power Engineering
TU Munich

Forthcoming events

Fifth International Online Conference on Reuse and Recycling of Materials (Polymers, Wood, Paper, Leather, Glass, Metals, Ceramics, Semi Conductors, Water etc) and their products (ICRM – 2020) 11-13 December 2020 at Mahatma Gandhi University Kottayam, Kerala, India. Conference Email: recycle@macromol.in

Abstract by Nov 15, 2020. Registration Rs1,000 for faculty and Rs.500 for students.

VIT Chennai is organising Virtual International Conference on Sustainable Energy Solutions for a Better Tomorrow (SESBT 2020) to be conducted through ONLINE platform on July 23, 2020. Abstract submission by July 3. Please REGISTER ONLINE by using the below link before submission of your Abstract.
https://forms.gle/LhPb6FGepvjPjNFYA

The Department of Mechanical Engineering of CMR Institute of Technology Hyderabad is organizing 2nd International Conference on Manufacturing, Material science and Engineering (ICMMSE 2020), during **7th and 8th August 2020** in CMRIT Hyderabad Telangana, India. For more information about the conference log on to **http://www.icmmse.in**. The submission deadline for papers is 15th July 2020.

The Third Malaysian International Tribology Conference will be held during **Sept 28-30, 2020** at Langkawi islands. MITC2020 official website*:* www.mitc2020.mytribos.org
Submission page*:* https://www.mitc2020.mytribos.org/page-3/
Submission link: https://cmt3.research.microsoft.com/MITC2020

The **2nd Innovative Product Design and Intelligent Manufacturing System: National Conference** (IPDIMS 2020) will be held at National Institute of Technology, Rourkela**, India** during December 02 - 03, 2020.Authors are requested to follow any of the following methods for manuscript submission: Online submission: https://easychair.org/conferences/?conf=ipdims2020 (OR)

Submit the article via email: icipdims@gmail.com Last date April 15
Website: - http://nitrkl.ac.in/Academics/Events/Conference.aspx
https://sites.google.com/view/ipdims/

VIT Chennai announces an International Conference on PROCESSING AND FABRICATION OF ADVANCED MATERIALS (PFAM 28) to be held in the city of Chennai (Madras, Tamil Nadu) during December 07-09, 2020. Last date for submission of Abstract is May 30, 2020. Conference website www.pfam28.com

The 50th Golden Jubilee conference of The International Conference on Computers and Industrial Engineering will be held at Egypt-Japan University of Science and Technology Campus, Alexandria, Egypt, during **25-28 October 2020**. This year the conference theme will be “Sustainable and resilient systems for a smart dynamic world”, emphasizing the important role industrial engineering will play in the future smart and dynamic world of the Fourth Industrial Revolution (Industry 4.0) to meet disruption challenges in a sustainable way. More details at https://ejust.edu.eg/cie50 . Last date for submission of papers/abstracts is May 1 2020 (info from Akhilnandh Ramesh-alumnus)

Inspiring Life Stories

Mr.V.Kumarasubamanian ,
formerly GM- Learning and Development,
Institute Industry Interaction Centre, Tube Investments of India,
and Member of our Dept Advisory Committee, is sharing his learning for everybody's development.

Story of Wonder Woman Dr. Seema Rao

இன்னாமை இன்பம் எனக்கொளின் ஆகுந்தன் ஒன்னார் விழையுஞ் சிறப்பு .

----------Thirukkural 630

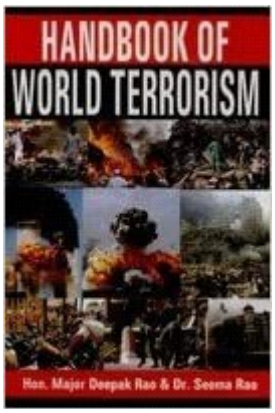
This Thirukkural means, 'One who considers pain as pleasure and does his/her work deligently, will attain such a glory in life that will be appreciated even by enemies.'

- Dr. Seema Rao has attained such a glory in life, no wonder she is rightly called the Wonder Woman of India.
- Dr. Seema Rao, is daughter of Dr.Ramakant Sinari, a freedom fighter, who played a major role in Goa's independence from Portugese. Naturally she had that high sense of patriotism in her blood.
- She grew up in Mumbai and was a bright student, showing interest in multidisciplinary skills. She learnt martial arts even from her younger age.
- She studied to become a Medical Doctor. Then she qualified herself further with an MBA in Crisis Management. She married Dr. Deepak Rao at a young age, but continued with her march towards a path of glory.
- She was a Mrs. India World Beauty pageant finalist. She earned her Para Wings by skydiving in the Indian Air Force course.

Though both of them got lucrative offers to practice as doctors, they chose to follow their passion - serving the country.
She has a black belt in Teakwondo and a 8th degree black belt in military martial arts. She is the world's highest qualified woman instructor in Bruce Lee's art of JKD(Jeet Kune Do). She has studied alternative medicine, immunology, fire fighting, jungle survival skills, scuba diving, mountaineering and Leadership from international universities.

- She, along with her husband Major Deepak Rao, is providing training to Indian Special Forces for the past 20 years without taking any compensation.
- She is a specialist in close quarter battle (CQB), and has trained about 20000 soldiers, special commandos, police, paramilitary personnel.
- She along with Major Deepak Rao, has invented **Rao System of Reflex Fire** as part of CQB and is introduced in the Army Curriculum.
- She has chosen one of the most difficult jobs, she is the first and only woman combat instructor in the country and one of the very few in the world. Her journey has not been easy, as could be expected.
- She has broken every bone in her body in various incidents in her training life, including one in which she lost her memory for months.
- She has won 3 Army Chief Citations, an incredible record.
- She has won World Peace Award and in the year 2019 has won Nari Shakthi Puraskar from President of India, highest civilian award for women.
- She is keenly interested in inspiring women and believes that women should be made aware of their capabilities.
- She gives TEDx talks, talking about ways to overcoming obstacles in life and developing fighting spirit.
- She is an author and authored several books, including world's first encyclopaedia of close combat operations. All the books she wrote were published at her own cost and given to armed forces.
- Her life is a huge inspiration for all, particularly for women.
- Watch her TED x speech on "Maximize your potential" at https://youtu.be/InzZX8nJlnE

Seema Rao's book



Today, Terrorism is the cheapest method of proxy war. Whilemanybooks are written on regional terrorism, there existsnocomprehensive textbook on the subject of world terrorism asyet.

This book is the first one of its kind, intended to satisfytheneed for a concise yet complete handbook to help the reader tohavea clear understanding of terrorism in all its facets. This book is a simple small ready reference containingthemust know data on terrorism.

It includes all the essentialfactsrelevant to terrorism in various parts of theworld-chronology,historical backgrounds, relevant military history,appedices anddata pertaining to major terror events give thecomplete picture.

It is intended to present the overall concepts onthe subject ofterrorism. At the same time, it harbors an encyclopedic data ontheterror events of the current era.

Corporate Wisdom 79

Interest Vs Commitment

R.Ramakrishnan
GMR Group

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.

•That is the difference between the commitment and interest.

When you are interested in something you fit 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 don't make excuses, even when it is not convenient and many time challenging and difficult. You press on toward the goal and vision you have created.

When you make a commitment, especially one to yourself, you begin to energize your mind in a way that opens new doors of possibility. A commitment starts the engine of the sub-conscious mind. It take a dream or an idea and begins the process of turning it into reality. Mixed with discipline, commitment shapes the future.

- **Interested people talk about everything they are going to do one day.**

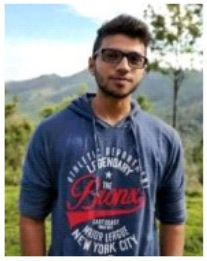
- **Committed people will one day talk about what they actually accomplished**

#WishingMostAndMore,
R.Ramakrishnan
GMR Group

The Team behind Aspire.....

Vinaya Krishna

Saran Prasanth



Akshay Kanna

Anupa Sri

Mohitha U.M