

Editor-in-chief Dr. K. Gopalakrishnan

Monthly Newsletter of the Indian Institution of Production Engineers

Editor: Dr. M. S. Ganesha Prasad, Principal, Mangalore Institute Technology and Engineering, Mangalore

Prof. R. M. Vasagam, National Chairman, IIPE

Dr. Wooday P Krishna, National President, IIPE

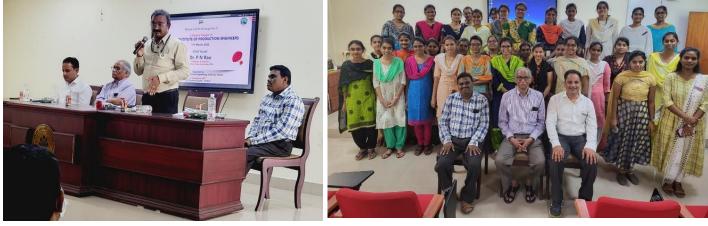
July 2022

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Dr. P. N. Rao, USA has inaugurated the Student Chapter of IIPE at JNTUK Kakinada

Department of Mechanical Engineering, UCEK (A), JNTUK, Kakinada has initiated the student chapter of Indian Institute of Production Engineers (IIPE) on 11th March, 2022 with 150 UG, PG & Ph.D students and Faculty Members.







For this program **Dr. P N Rao,** Professor & Director, Northern Iowa University, USA has attended as Chief Guest for this inaugural program and address the gathering and shared his thoughts with students about the importance and role of having memberships in academics. The guest of honor, **Dr. M H M Krishna Prasad**, Principal, President of the program **Dr. K. Meera Saheb**, Professor & HMED, and the Coordinator **Dr. Lingaraju Dumpala**, Asst. Professor, MED, UCEK (A), JNTUK, Kakinada addressed the gathering and share their valuable suggestions with the participants. On this day, the Organizing Committee was formed and officially announced by the Chief Guest. So many technical and cultural programs like Technical Quiz, Drawing, Singing, Open Forum Discussion, Cricket, Hand Ball, etc. are conducted for the students and distributed the prizes for winners and as well as for the participants.



Mechanical Engineering Student's Association & IIPE Student's Chapter at Erode Sengunthar Engineering College, Erode

Department of Mechanical Engineering inaugurated **Mechanical Engineering Student's Association & IIPE Student's Chapter** on 01.04.2021. **Dr.R.Thirukkumaran**, Professor and Core Technical Committee, Satellites Consortium, Bangalore was the chief guest and delivered inaugural address and Guest Lecture on **"Industry 4.0 Towards Digital Transformation"**. HoD/Mechanical, **Dr. N. Saravanan**, Professor/Mech has presided the function and IIPE Coordinator, **Prof. G.Dhayanithi** has welcomed the gathering.









www.iipeonline.org



Jansons Institute of Technology

Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai Accredited by NAAC and ISO 9001:2015 certified Institution Coimbatore, Tamil Nadu – 641659 www.jit.ac.in

Digital Prototyping-an Innovative Product Making Challenge at

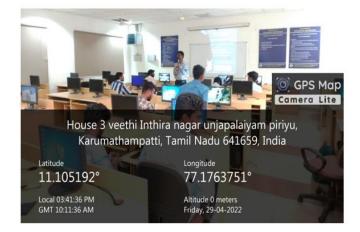
Jansons Institute of Technology, Coimbatore, Tamilnadu

Event Report

Title	:	Contest "Digital Prototyping	g - An Innovative Pr	odu	ct Making Challenge"
Date (from & to)	:	29.04.2022	Time (from & to)	:	03.15 – 04.15 PM
Venue (online / offline)	:	CAD Laboratory , JIT			
Organised by	:	Indian Institute of Production Engineers (IIPE)			
In association with	:	JIT Institution's Innovation Council (JIT IIC)			

Event Objective: The objective of the Technical Contest is exploring students towards the design software for product modelling **Event Summary**: Prototyping is a draft version of a product or the overall design concept to users before investing time and money into development. Digital Prototyping gives conceptual design, engineering, manufacturing to virtually explore a complete product before it's built. To explore students towards the design software for product modelling a Technical Contest - "Digital Prototyping -An Innovative Product Making Challenge" was conducted for the Mechanical Engineering Students by the Indian Institution of Production Engineers (IIPE) in association with JIT IIC on Apr 29, 2022 from 03.15 PM onwards. In this Contest, the participants are provided with a finished lathe work piece (Physical model) and they have to create a digital model with mechanical design software. The event planned for a team (Maximum of two members) in the CAD Laboratory, JIT. Registration form was shared to all the students of mechanical engineering department and Interested students actively registered for the event. All the Participating teams are provided with a Vernier Calliper to measure the accurate dimensions of the lathe work piece. The participating teams were evaluated based on Product Modelling, Dimensioning and Presenting the modelled component. Based on the Scores obtained, the best performing teams were selected and honoured with Appreciation E-Certificate and all the participants are provided with an E-Certificate. Feedback form was shared to the participants; Participants felt that the contest was interesting and helpful to familiarize the mechanical design software and the related tools.

Event Outcomes: Students will be aware of the different tools and software used in the Industries to make the Product design for manufacturing



Event Explanation to Participants by the Coordinator



Team Participating in the Digital Prototyping Contest













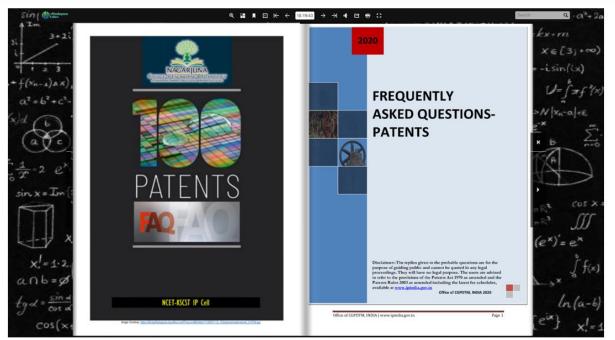
Dr. K. GOPALAKRISHNAN, Advisor-R&D, NGI/NCET Project Director, 75 Students' Satellites Consortium: Mission 2022 and Member Secretary, 75 Satellites-Project Management Committee, ISR0-HQ Secretary General, Indian Technology Congress Association and Secretary General, University Space Engineering Consortium-India Founder, World CanSat/Rocketry Consortium/Championship and Mentor Students' Start-up: TSC Technologies PLtd

IIPE Students Chapters have Participated in above Activities at Sri Shakthi Institute of Technology, Coimbatore

Need for R&D and IPR Activities @ Engineering College:

Myths and Realities! Opportunities and Challenges! How you Can Grow Vertically!

Sri Shakthi Institute of Engineering and Technology, L&T Bye-Pass, Coimbatore 641 062 I Self-Study Celebrations!



https://links.tsctech.in/NCET-KSCST-IP-Cell Click the above Link here for Reading the Flip Book on "100 FAQs on Patents"

ISRO Chairman Interactions with 75 Satellites' Core Team



Interactions with Chairman, ISRO held at his Board Room at ISRO, HQ on 04 April 2022. L to R: Padma Shri. Prof. R. M. Vasagam, Advisor & Mentor, ITCA 75 Satellites Consortium, Shri S. Somanath, Chairman, ISRO and Secretary, Department of Space, Government of India, Dr. L.V. Muralikrishna Reddy, President, ITCA; Standing L to R: Shri. Prakash Rao, PJVKS, Director, Space Infrastructure-SIPO, ISRO and Chairman, 75 Satellites Project Monitoring Committee, Shri. Ashwin Reddy, Core Team, TSC, Dr. GNV. Prasad, Head and Mentor, Core Technical Team, 75 Satellites-Former Dy Director, ISRO Satellite Centre, Dr. K. Gopalakrishnan, Project Director, 75 Students' Satellites-Mission 2022 and Advisor-R&D, NGI/NCET, Shri. Nikhil Riyaz, CEO, TSC, Shri. Jegan R Mani, Head-Technical, TSC and Shri. Denzel George, Core Team, TSC Technologies P Ltd, Students' Start-up Mentored by ITCA.



Azadi

मत महोत्सव Amrit Mahotsav



INTELLECTUAL PROPERTY INDIA



DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE MINISTRY OF COMMERCE & INDUSTRY GOVERNMENT OF INDIA



National Intellectual Property Awareness Mission held on 10 March 2022 @ 14:30 hrs Successfully

Webinar on Intellectual Property Rights We Thank the Invited Speakers: Shri. Abhishek Singh

Examiner of Patents and Designs (since April, 2016), Patent Office, Chennai, Ministry of Industry and Commerce, Govt. of India.

Dr. Sharana Gouda

Assistant Controller of Patents and Designs, Indian Patent Office, Chennai, Ministry of Industry and Commerce, Govt. of India. The awareness-programs are being conducted under NIPAM (National Intellectual Property Awareness Mission), an ambitious mission of the Govt. of India. It is intended to cover a million of students (till August 15th, 2022) to make them aware of Intellectual Properties and it's various aspects. It includes the understanding, technical details, filing procedures, strength of the rights and further the working of Indian Intellectual Property Offices in these respects. The eventual aim of this widespread mission is to nurture an environment in the country where people would be aware of their IP rights. In turn, we wish to see the innovative and intellectual brains of the country flourishing on a pan-India level.

Mangalore Institute of Technology and Engineering, Mangalore has Organised Webinar on IPR







IIPE Chapters interested in Launching Their Own Satellites or to establish the UNISEC India Chapter at Their Institutions can contact: Dr. K. Gopalakrishnan, National Secretary, IIPE at <u>profgoki@yahoo.com</u> or M: 98451 73730

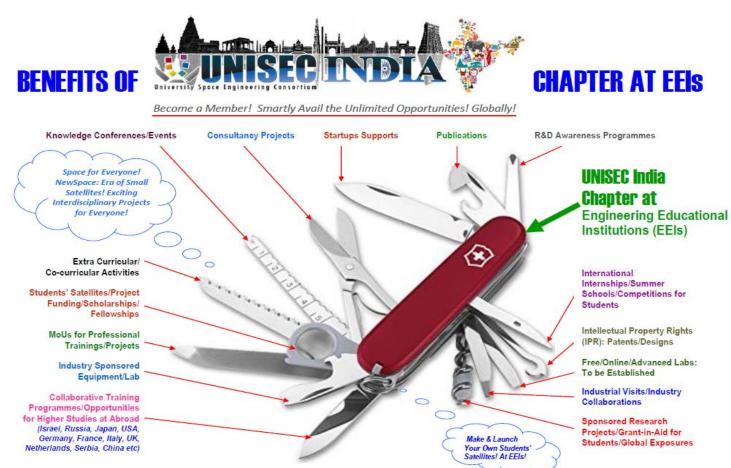
India- Israel Partnership

- Innovation, Robust Technology Base, Disruptive Technologies
- Academic Research to Products and Solutions
- Approach to Outreach Educational Programmes Industry & Institute
- Mastered in Space Technology
- Strong in Communication, Observation Science and EducationInternational Co-operation, Bilateral Agreements with India including Student
- Exchange Programmes and Joint Projects
- Funds Grants, Soft Loans etc

How Institutions Can Engage

- Build Strong "Space Technology" Competencies
- Hands on Development Experience- Students and Faculty Members
- More Industry Interaction (Real Time)
- State-of-the-art Technology Interventions
- Create New Job, Start-ups and Incubation facilities
- Nurture Future Space Engineers/Scientists
- Technology Demonstration S&T Research
- Support Education Outreach
- Make Students Future Career Ready

UNISEC India: Secretariat @4th Floor,#3, First Main, BDA Layout, Kodihalli, HAL 2nd Stage, Bengaluru – 560008, Karnataka, India; Contact Info: +91 80 6559 2501, +91 80 4850 8380; Website: <u>www.unisec-india.in</u>





A Student Chapter of INDIAN INSTITUTE OF PRODUCTION ENGINEERS

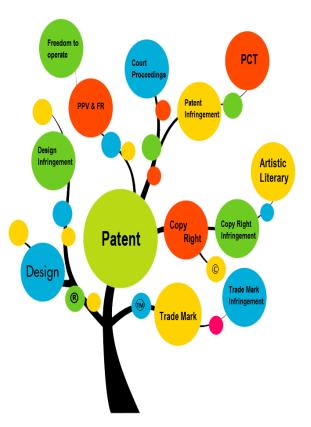
Department of Mechanical engineering University College of Engineering Kakinada (A) JNTU KAKINADA



PANEL MEMBERS

Used of the Department		
Head of the Department	:	Dr. K. MEERA SAHEB, Professor
Faculty Coordinators	:	Dr. LINGARAJU DUMPALA, Asst. Professor
		Dr. K. KRISHNA BHASKAR, Asst. Professor
		Sri. V. KALYAN MANOHAR, Asst. Professor
		Sri. M. MADHUSUDHAN PRASAD, Asst. Professor
		Sri. V. VARA PRASAD, Asst. Professor
		Dr. V. JAYA PRASAD, Asst. Professor
Research Scholar Coordinator	:	Sri. LAXMIMOHANKUMAR CHINTADA, Ph.D Scholar
PG Coordinator	:	Mr. Sandeep, I M.Tech (CAD/CAM)
President	:	Mr. S. Mohan Sainadh, III B.Tech
Vice President	:	Ms. B. Sneha Sree, II B.Tech
Secretary	:	Mr. V. Vamsi Krishna, III B.Tech
Joint Secretary	:	Mr. B. Harish, I B.Tech
Treasurer	:	Ms. V. Ramya Suchitha, I B.Tech
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		Ms. R. Shiny Joe, II B.Tech
		Ms. A Harshika Manju Sri, I B.Tech
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		Mr. G. Snehith, II B.Tech
Membership Coordinator	:	Mr. Ch. Yesheswi, II B.Tech
Website Coordinators		Ms. S. Sri Vamsi, III B.Tech
		Mr. Ahmed Alisha, II B.Tech
		Mr. S V N Sai Surya, I B.Tech
Industrial Tours & PR Coordinators	:	Ms. P. Sowjanya, III B.Tech
	\square	Mr. K. Kumar Markandeyulu, II B.Tech
Environmental & SR Coordinators	:	Ms. K. Bindu Sai, II B.Tech
		Mr. N. Nithin, I B.Tech
Members	:	Mr. B. Anil Kumar, III B.Tech
		Ms. V. Pavani, III B.Tech
	\square	Mr. S. Vinay, II B.Tech
	\square	Ms. K. Susmitha, II B.Tech
	\square	Mr. K. Sai Nikhil, I. B.Tech
	\square	Ms. D. Haswitha, I. B.Tech

Portfolio of Intellectual Property Rights (IPR)





Benefits of Professional Bodies Chapter at EEIs: Including IIPE Chapters at EEIs Which Provide Network to Achieve the Following:

Publications

- Research Papers: Published in Journals (With ISSN/Impact Factors etc)
- Research Papers: Published in Conference (Proceedings with ISBN)
- Books
- Monographs/White Papers
- "h" Index of Each Faculty _
- "I 10" Index

Intellectual Property Rights (IPR)

- Patents
- Trade Marks
- **Geographical Indications**
- Layout-Designs of Integrated Circuits _
- Industrial Designs
- **Trade Secrets**
- Copy Rights (rights of authors of literary and artistic works _ including Computer Programmes)

Sponsored Research Projects/Grant-in-Aid **Consultancy Projects** Industry Sponsored Equipment/Lab

Free/Online/Advanced Labs: Established

- Students/Faculty Activities **R&D** Awareness Programmes Extra Curricular/Co-curricular Activities
- Establishing Chapters of Professional Societies/Trade Bodies ٠
- Enhancing Team Activities/Interpersonal Skills etc Emerging Trends Watch: Alternative Teaching & Learning
- Innovations/Patents/Video Watch etc

Industrial Visits/Industry Collaborations

- Arranging Industrial Visits/Field Training of Faculty/Students at Industries
- B.Tech and M.Tech Mini-Major Project/Dissertation Work at Industries
- **Collaborative Training Programmes/Credit Courses**
- Companies to Take Students for Learn & Earn Programs
- Practical Training/Pre Internship of students in Industries (Unpaid/Paid)
- Professional Chairs Sponsored by Industries at EEI
- R&D Laboratories sponsored by industries at EEI
- MoU between Industries/R&D Labs/Professional/Trade **Bodies**
- Scholarships/Fellowships Instituted by Industries for Students of EEI
- Short-Term Assignment/Exchange of Faculty Members in Industries
- Expert/Professionals from Industry as Visiting Professors or Guest Lectures and Delivering Lectures on Industrial Best **Practices & Trends**

Knowledge Conferences/Events: Organized/Attended

- Workshops, Conferences and Symposia In House Events: Faculty Participation in External Events:
- Having Tie-ups with Foreign Universities
- Promote International Internship /Summer Schools Startups: Established
- Startups by Students/Faculty Members

FUEL CELL TECHNOLOGY

Proton exchange membrane fuel cell A fuel cell is a device that converts chemical potential energy (energy stored in molecular bonds) into electrical energy. A Hydrogen fuel is channeled through field flow plates to the anode on one side of the fuel cell, while oxidant (oxygen or air) is channeled to the cathode on the other side of the cell. PEM (Proton Exchange Membrane) cell uses hydrogen gas (H2) and oxygen gas (O2) as fuel. The products of the reaction Backing layers in the cell are water, electricity, and heat. Oxidant Hydroge At the anode, a platinum catalyst causes the hydrogen to split into positive hydrogen ions (protons) and negatively charged electrons. Heat Heat Hydrogen in Oxygen in Water uel Cathode Water out Anode /

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FUEL CELL



4

(positive)

Polvmei

electrolyte

membrar

(negative)

Oxidant flow field

The polymer electrolyte membrane (PEM) allows only the positively

to the cathode, creating an electrical current

At the cathode, the electrons and positively charged

hydrogen ions combine with

oxygen to form water, which flows out of the cell.

charged ions to pass The negatively charged electrons must travel along an external circuit