



Newsletter of Mechanical Engineering Association

DEPARTMENT OF MECHANICAL ENGINEERING SHRI VISHNU ENGINEERING COLLEGE FOR WOMEN :: AUTONOMOUS

Vision of the Department

- To be recognized globally for quality education and research leading to well-qualified, innovative, entrepreneurial and successful mechanical engineer

Mission of the Department

- To Impart quality education to enhance skills and make graduates globally competitive.
- To Prepare students to pursue lifelong learning,, serve the profession and meet intellectual,, ethical and work place challenges.
- To Provide Research facilities and opportunities to faculty & students to create,, interpret,, apply and disseminate knowledge.

Program Educational Objectives

- Have foundation in engineering and science to apply Technical Knowledge and skills in various areas of Mechanical Engineering.
- Become effective engineers to meet society''s needs with their research capabilities in interdisciplinary subjects.
- Acquire skills for life-long learning and practice of professional ethics.

INDUSTRIAL VISIT TO VENNAR CERAMICS LIMITED

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Department of Mechanical engineering had organized an industrial visit on 3rd December , 2021 to vennar ceramics limited located in kaikaluru for the students of II year. The visit was planned by HOD of mechanical engineering Dr.Ch.Harikrishna, faculty co-ordinator Mr.UDS prathap varma and supporting staff Mr. P venugopal krishnam raju accompanied the total 57 students for the visit.

The company has the distinction of being the first gas- based power generating plant in India with a capacity of 2.7 Megawatts. The 3000 KW rated engine has been sourced from Wartsila of Sweden and the generator from A.B.B., France. in the year 2011 the company established a joint venture with Kajaria Ceramics Ltd for production of Wall Tiles with an investment of more than Rs 70 crore. The plant was successfully commissioned in record time and presently producing more than 7,500 SQMTRS per day.

Its main aim is to acquire practical knowledge related to the “advanced technology used in manufacture of sophisticated moulds, dies and tools” and also got exposure on Precise cutting and surface finishing of the jobs,working of CNC machines with multiple cutting tools, types of machines available for tool & die making, Management of manpower and machines and at last use of programming in field of Mechanical engineering.



Faculty achievements

Dr.Ch.Hari krishna, HOD, Mechanical Engineering, has carried out an inter disciplinary research on “An intelligent system for predicting roll pressure in the cold rolling of Ti6Al4V”.

Cold rolling is the most widely used metal forming process in which the metal sheet is passed in between a set of rolls. Roll pressure is the major parameter that influences thickness reduction. Explicit dynamic analysis can be performed using Finite Element (FE) models to simulate the cold rolling process.

Process parameters such as speed of the rolls, roller diameter, friction coefficient, and thickness reduction were considered for the investigation. Results from the FE simulation can be used for training the artificial neural network (ANN) to estimate the roll pressure acted on the billet.

The ANN model developed in MATLAB and the numbers of neurons, as well as training and transfer functions of an artificial neural network, are varied for analysing the results. An optimal network is developed for predicting the roll pressure. The developed network is capable of considering the effect of main parameters such as roll speed, roll diameter, inlet thickness and outlet thickness of plate, and coefficient of friction.

The developed network could successfully predict the roll pressure and the values are in close agreement with FE simulation. The developed ANN model is capable of predicting the roll pressure in different cold rolling conditions accurately.

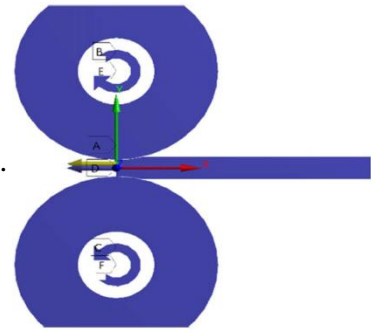


Fig. 1 FE modelling of rolling process

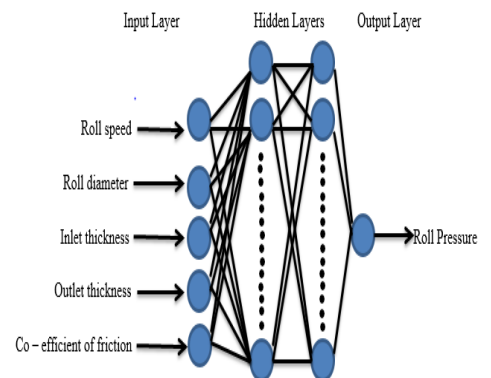


Fig 2 Artificial Neural Network Structure

Patents Published

- N Srinivasa Rao Published a patent on the title MILK OVERFLOW DETECTOR with Patent No 353839-001
- V Lakshmi Narayana Published a patent on the title Alphabetic Watch for Kids with Patent No 353070-001
- K Raghavendra Sai Published a patent on the title MOBILE TELEPHONE with Patent No 348726-001

Faculty attended workshops/conferences



- Mr. P Surya Prakash Varma attended a 5-day International online Faculty Development Program on “Thrust Areas of Research in Mechanical Engineering” during 22-06-2021 to 26-06-2021
- Mr. P Surya Prakash Varma attended One Week Online Faculty Development Program on “Modern Industrial Technology in Mechanical Engineering” during 02-07-2021 to 08-07-2021
- Mr. P Surya Prakash Varma attended AICTE sponsored QIP Short Term Course on “4D Printing on Smart Manufacturing” during 28-06-2021 to 03-07-2021
- Mr N Srinivasa Rao attended FDP on Learning Through Virtual Labs for Technical Institutions during 18-10-2021 to 22-10-2021
- Mr N Srinivasa Rao attended FDP on Research Tools & Methodologies during 27-09-2021 to 01-10-2023
- Mr. B N Malleswara Rao attended 5 Days EV Design Master Class during 13-12-2021 to 17-12-2021
- Mr. B N Malleswara Rao attended FDP on Advanced Vibrations – Various Engineering Applications With Hands on Sessions (PHASE 2) during 27-09-2021 to 02-10-2021
- Mr. Uddarraju Dhana Satya Prathap Varma attended FDP on Advanced Vibrations – Various Engineering Applications With Hands on Sessions (PHASE 2) during 27-09-2021 to 02-10-2021

Faculty Publications:

• Mr.B.N.Malleswara Rao and Dr.Ch.Hari Krishna, published a paper on Influence of tool pin profile on mechanical and metallurgical behaviour of friction stir welded AA6061-T6 and AA2017-T6 tailored blanks, in the Engineering Research Express

• Dr.Ch.Hari Krishna, published a paper on An intelligent system for predicting roll pressure in the cold rolling of Ti6Al4V , in the Engineering Research Express

• Mr. J.V. Narasimaha Raju, published a paper on Experimental and Thermal Investigation on Powder Mixed EDM Using FEM and Artificial Neural Networks, in the Advances in Materials Science and Engineering

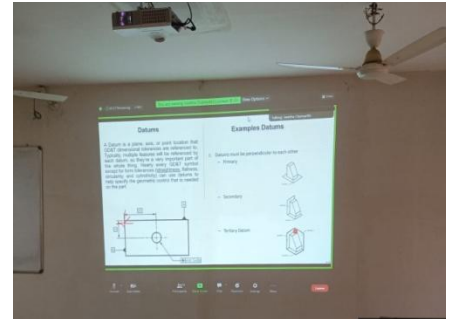
• Mr. J.V. Narasimaha Raju, published a paper on Experimental investigation and optimization of die-sinking EDM of grade 630 stainless steel using Taguchi approach, in the Materials Today: Proceedings



- Mr.P.Surya prakash Varma, published a paper on CFD Analysis of piston bowls geometry for CI direct injection engine using finite element analysis, in the International Journal of Nonlinear Analysis and Applications

Webinar on GD&T by Lead Engineer Johndeere, Pune

The Department of Mechanical Engineering, Shri Vishnu Engineering College For Women, Vishnupur, organized a webinar entitled “Geometric dimensioning and Tolerancing (GD&T) on 04.03.2021 for imparting fundamental knowledge on Geometric dimensioning and Tolerancing by Ch.Shwetha lead design engineer john deere , Alumni of shri Vishnu engineering college, Head of the Department/ Mechanical Engineering welcomed the gathering gave the presidential address.



The resource person provided a Geometric dimensioning and Tolerancing (GD&T). She emphasized GD&T is a way of describing the dimensions and tolerances that’s different from traditional coordinate measurement plus/minus tolerancing. Fundamentally, engineers design a part with perfect geometry in CAD, but manufactured parts are never perfect. Proper use of GD&T can improve quality and reduce time and cost of delivery. It accomplishes this by providing a common language to accurately express design intent and focusing on functional interfaces to tolerance a part. Totally, 55 students and 2 faculty members from various colleges attended the webinar.

GROWING ENTREPRENEURIAL MINDSET FACULTY WORKSHOP

Shri Vishnu Engineering College for Women organized a 2 weeks faculty development workshop on “GROWING ENTREPRENEURIAL MINDSET” from 31/May/2021 to 14/Jun/2021 with intent to share the expertise with the entrepreneur fraternity at large adding value to their professional outlook. 24 participants across 4 institutions of Sri Vishnu Educational society have participated in this workshop.

The day had cropped up with an inciting speech from the organizer Dr. G. Srinivasa Rao, Principal, SVECW and later the session was unfolded by Sri K. V. Vishnu Raju, chairman of SVES, Sri R. Ravichandran, Vice-Chairman, SVES, Sri K. Aditya Vissam, Secretary, SVES and Dr Siva Kumar Krishnan, Director, Vedic.

Dr Sridhar Condoor trained the faculty towards growing entrepreneurial mind set that could develop a new set of competencies and capabilities to drive the innovation towards business. Entrepreneurial Thinking Workshop provides the following objectives:

- Shift your pattern of thinking and enhance your ability to sell ideas
- Leverage experimentation and action to achieve results
- Build entrepreneurial leadership skills and capabilities
- Navigate uncertainty and complexity more easily

