



## SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

S.R.M NAGAR KATTANKULATHUR - 603 203

DEPARTMENT OF MECHANICAL ENGINEERING

NEWS LETTER JULY\_SEPTEMBER 2021



1. A Motivational Guest Lecture on 'Future Research Opportunities in Mechanical Engineering' was conducted through online mode on 19<sup>th</sup> July 2021. The resource person Mr.V.R.Barath, Research staff at Plasma Modeling and Simulation Laboratory, Department of Physics, Bharathiar University, Coimbatore, delivered the expert talk on the following topics:

- Research opportunities in mechanical engineering field.
- How to apply government research project proposals?
- How to start Ph.D with Gate stipend in India?
- Gate CGPA for direct PhD in IISc, IITs, PSU's Job through gate score and recruitment process for PSU job.
- How to identify research areas?
- How to write research project proposal to government agency to get scholarships?

A total of 162 students participated in the session.

2. A Guest Lecture on 'Electric Vehicle Scope, Future and Challenge' was conducted through online mode on 31<sup>st</sup> July 2021. The resource person Mr. Muralidharan Gopi Ramesh, M.S., MBA., Project Manager, Nissan Motors India Private Limited, Chennai, delivered the expert lecture on the following topics:

- The current scenario of the automobile industry.
- Scope for the evolution of Electric vehicle.
- Global market and scenario of the E- vehicle introduction in the near future.
- Various technologies in Battery production and vehicle design to have better efficiency.
- Nissan motor company and its work towards E-vehicle.
- Scope for developing the E vehicle and the subsidy from the government to take forward the E-vehicle.
- Challenges to be faced after the introduction of the E vehicles.
- Cost comparison with IC engine vehicles and E vehicles.

A total of 53 members participated in the guest lecture.

3. A Guest Lecture on 'Automotive Mechatronics' was conducted through online mode on 19<sup>th</sup> August 2021. Mr.N.Nagamanikkam, B.E., Project Manager, Ashok Leyland Limited, Chennai delivered the expert lecture on the following topics:

- ❖ Automobile Plant
- ❖ Press shop
- ❖ Weld shop
- ❖ Axle shop
- ❖ Frame shop
- ❖ Body shop
- ❖ Programmable logic controller
- ❖ Engine control unit
- ❖ Transmission line
- ❖ Final assembly line

The topics covered were very useful for everyone to learn about how the robotics and automation techniques are used in automobile industry. A total of 50 members participated in the guest lecture.

4. A Guest Lecture on 'Innovation in Digital Manufacturing' was successfully conducted through online mode on 24<sup>th</sup> August 2021. The resource person Mr. A. Manoj Krishnan, B.E., Senior Engineer, Ford Global Technology and Business Centre, Chennai, delivered the expert lecture on the following topics.

- ❖ Digital manufacturing
- ❖ Industrial revolution
- ❖ Automotive industry 4.0
- ❖ Implementation in auto motive industry
- ❖ BIM introduction
- ❖ BIM manufacturing methodology
- ❖ Real time manufacturing

55 members participated in the guest lecture.

5. A Guest Lecture on 'Career Development in Artificial Intelligence' was conducted through online mode on 25<sup>th</sup> August 2021. The resource person Mr.Vignesh Kalimuthu, Alumnus, B.E.,M.S., Head of Business Development & Growth, Super AI, Berlin, Germany delivered the expert lecture on the following topics:

- ❖ Introduction about Artificial Intelligence
- ❖ Impact of Technological development and AI in the business sectors
- ❖ Concept of TESLA

- ❖ Control and execution work of AI assisted robots
- ❖ Concept of Data Science
- ❖ Machine learning concept
- ❖ Career scope of AI
- ❖ Application of AI on Autonomous vehicles

The topics covered were very useful for everyone to learn about how the concepts of AI used in various applications. 51 students participated in the guest lecture.

6. A Guest Lecture on ‘Recent Trends in Automobile Industries’ was conducted through online mode on 28<sup>th</sup> August 2021. The resource person Mr. Shankar Thirunavukarasu, B.E, M.B.A, Deputy Manager, Power Train-Engine Department, Renault Nissan Technology and Business Centre India Private Limited, Chennai, delivered the guest lecture on the following topic:

- ❖ Trends that are driving the transformation of the automotive industries.
- ❖ Trends in automotive future is electrified, autonomous, shared, connected and yearly updated (EASCY)
- ❖ Concept of autonomous vehicle.
- ❖ Derivation trends in passenger car
- ❖ Global annual passenger and usage of available resources.
- ❖ Oil import dependency factors
- ❖ Concept of battery, plug in, hybrid, fuel cell electronic vehicle.
- ❖ Role of various types of batteries in electric vehicles.
- ❖ Various comparisons with cost, speed and load condition.
- ❖ Various types of cars sharing with modern techniques.
- ❖ Usage of liquid nitrogen-based vehicles

A total of 23 members participated in the guest lecture.

7. The 9<sup>th</sup> National Level Technical Symposium MEQNZO - 2021, was organized on 04.09.2021. The primary objective of symposium is to bring together the academicians and practitioners in Mechanical Engineering and other associated fields in the online platform, to share their knowledge and expertise, so as to contribute towards research and development in the field.

The following technical events were conducted:

- ❖ Paper Presentation
- ❖ Mequiz

- ❖ CAD Modelling
- ❖ Non-technical events like photography

About 80 papers on diverse topics encompassing Manufacturing, Design, Thermal Engineering including recent trends in other fields of Engineering & Technology were received for the symposium, from reputed institutes across the country. A total of 138 students participated in various events.

8. A Guest Lecture on 'E-Mobility in India-Challenges, Technologies, Market and Opportunities' was conducted through online mode on 25-09-2021. The resource person Er.M.Poovarasan, Technical Leader-ADAS, ZF Wabco, Chennai, delivered the expert lecture on the following topics:

- ❖ Introduction to E-Mobility
- ❖ Innovation in Automobile fields
- ❖ Application of artificial intelligent (AI) and internet of things (IOT) in cars
- ❖ Autonomous Vehicle Development
- ❖ Types of Electric Vehicle
- ❖ Typical E-Vehicle Anatomy
- ❖ Validation in Digital Manufacturing
- ❖ ADAS Technologies
- ❖ Recent advancement in the area of automobile engineering

The topics covered were very useful to the budding engineers. A total of 50 members registered and 30 members participated in the guest lecture.

9. A Webinar on 'Exposure to Budding Engineers, An Insight to Choosing an Engineering Course' is successfully conducted for +2 students through online mode on 30<sup>th</sup> September 2021. The resource person Dr.S.Thirugnanam, Professor, Department of Mechanical Engineering, SRM Valliammai Engineering College Chennai, delivered the expert speech on the above topic. He covered various job opportunities and scopes of Engineers. He also discussed about the following topics.

- ❖ Why Engineering?
- ❖ A career offering a huge range of rewards
- ❖ TNEA Counselling
- ❖ Choose your best college, Infrastructure, Teaching quality, Placement
- ❖ Benefits of NAAC & NBA Accreditation, Autonomous Institution status
- ❖ About SRM VEC & various details in SRM VEC website
- ❖ Various branches of engineering
- ❖ Job opportunities in Government sector, Private Sector.

A total of 56 members registered out of which 36 members participated in the guest lecture.

Staff Activities:

1. Dr.K.Sivakumar, HoD/Mech published a paper on ‘Mechanical Strength and Fatigue Fracture Analysis on Al-Zn-Mg Alloy with the Influence of Creep Aging Process’ in Advances in Material Science and Engineering, Hindawi, Volume 2021, Article 1899128, <https://doi.org/10.1155/2021/1899128>

2. Dr.K.Sivakumar, HoD/Mech published a paper on ‘Parameters Optimization of Dissimilar Friction Stir Welding for AA7079 and AA8050 through RSM’ in Advances in Material Science and Engineering, Hindawi, Volume 2021 |Article ID 9723699, <https://doi.org/10.1155/2021/9723699>

3. Dr.K.Sivakumar, HoD/Mech and Mr.S.Sivasankar, Asst.Prof published a paper on ‘Effect of rib arrangements on the flow pattern and heat transfer in internally ribbed rectangular divergent channels’ in the Journal of Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2020.11.548>

4. Dr.K.Sivakumar, HoD/Mech published a paper on ‘Experimental investigation on emissivity of 75Ni-25Cr alloy coated Aluminium surface for the purpose of solar applications’ in the Journal of Materials Today: Proceedings, Elsevier, Volume: 37, Pages: 1320-1323

5. Dr.S.Thirugnanam, Professor, resource person for 7 day National Level Online Faculty Development Program on Metrology and Measurements from 19<sup>th</sup> July 2021 to 26<sup>th</sup> July 2021 held at Sri Sairam Engineering College.

Staff Incharge

HoD/Mech