

# NATIONAL CONFERENCE ON EMERGING RESEARCH AND ADVANCES IN MECHANICAL SCIENCES

# ERAMS-2018

14<sup>th</sup> March '18

Organized by

**DEPARTMENT OF MECHANICAL, PRODUCTION AND  
AUTOMOBILE ENGINEERING**



**VELAMMAL**  
ENGINEERING COLLEGE

The Wheel of Knowledge rolls on!

(ISO 9001:2008 Certified and Accredited by NAAC)

'Velammal Nagar', Ambattur-Redhills Road,  
Chennai-600 066, Tamil Nadu

Phone: 044- 39666027; Fax: 91-044-26591771

Website : [www.velammal.edu.in](http://www.velammal.edu.in)

## ABOUT THE INSTITUTION

Velammal Engineering College was established in the year 1995. It is accredited by NAAC. It offers 9 UG, 3 PG programmes and many of the departments are recognized as Research Nodal Centre by Anna University through which scholars can register for their Ph.D. The College has signed MoU with research organizations and industries in order to promote innovative projects for sharing technical ideas among faculty and students. Due to the excellent academic climate in the campus, UG and PG students of our College enjoy good campus placement prospects in reputed MNCs.

## ABOUT THE DEPARTMENTS

The department of Mechanical Engineering exists since 1999. We have 48 faculty members on role which includes 6 Doctoral degree holders. The faculty members are actively involving in executing R&D projects for many reputed industries. The department has membership with Professional bodies like ISTE, SAE-INDIA, ISHRAE, ENFUSE etc., and has signed MoU with various industries. It is fully equipped with the state of the art laboratories and also a nodal centre for research under Anna University, Chennai. The Department has produced 2 Doctorates and 34 Ph.D research scholars are pursuing their Ph.D degree in the department.

The Department of Production Engineering was established in the year 2008. The department is having a core team of qualified and experienced faculty with industrial and research background. The department is fully equipped with the state of art laboratories. Our faculty members are actively involved in executing R&D projects funded by DST, AICTE and also in consulting projects for many reputed industries.

The Department of Automobile Engineering was started in the year 2012. The Department has experienced staff members in automobile field. The department is well equipped with advanced laboratories like Engine Performance and Emission Testing lab, Fuels and Lubricants lab and various laboratories to support R&D.

The students of Mechanical Sciences Department are actively participating in SAE events like Supra, Go-Kart, Eco-Cart, Efficycle and Baja with the guidance of faculty members.

Mechanical Sciences Department is facilitated with funds for research from various funding agencies like DST, AICTE, BRNS, DRDO etc



## ABOUT THE CONFERENCE

In the global competitive customer - centric scenario, the field of Mechanical, Production and Automobile Engineering is advancing at a rapid pace and new technologies are emerging in the areas of thermal, automobile, manufacturing and design development, manufacturing and management. The challenges faced by today's Engineers are forcing them to keep abreast of the emerging trends through continuous research and development. ERAMS 2018 is intended to provide a common platform to bring together the researchers, engineers, scientists, and scholars to exchange their experiences, new ideas, and outcomes of research about all aspects of Mechanical, Production and Automobile Engineering and also to discuss the practical challenges encountered and the solutions adopted. The conference will include keynote address by eminent people in the field of Mechanical, Production and Automobile Engineering and technical paper presentation by the delegates.

## CONFERENCE THEMES

### A. Thermal Engineering

Heat Transfer, Computational Fluid Dynamics, Advanced IC Engine Technologies, Automobile Engineering, Combustion and Pollution Control, Thermal Power Plants, Fuel Cell Technology, Thermal Systems, Jet Propulsion, Turbo Machines, Refrigeration & Air conditioning, Energy Conservation, Management & Audit, Conventional & Renewable Energy Sources, etc

### B. Design Engineering

EA/FEM, Tribology and Maintenance, Stress Analysis and Fracture Mechanics, Simulation & Modelling, Vibration and Noise Control, Non-linear Mechanical Systems, Dynamic Systems, Computational Mechanics, Mechatronics, etc

## C. Manufacturing

CAM / CIM / FMS, Group technology, e-manufacturing, Rapid prototyping, Non - Traditional Machining, Robotics, MEMS, Nanotechnology, Metal Cutting and Tool Design, Knowledge Management in Manufacturing, etc

## D. Materials Engineering

Composite Materials, Nano Composites, Behaviour of Advanced Materials, New and Smart Materials, Biomaterials, Fatigue and Fracture, Advanced Processing Techniques, etc

## E. Industrial Engineering and Management

TQM / TPM / SPC / FMEF / QFD / QC, ERP / BPR / CAPP, Six Sigma/ Taguchi Techniques, Scheduling/ Plant Layout / Materials Handling, Time and Work Study, Ergonomics, Supply Chain Management, Reliability and Maintenance Engineering, System Dynamics, Agile/Lean / Concurrent Manufacturing, Operations Research Applications, Non - traditional Optimization Techniques (Fuzzy Logic, Artificial Neural Network, GA, SA Techniques etc), etc.

## ADVISORY COMMITTEE

- 1. Dr.M.Balasubramanian**  
IIT Madras, India
- 2. Dr. B.Mohan**  
Anna University, Chennai, India
- 3. Dr.E. Natarajan**  
IES, Anna University, Chennai, India
- 4. Dr.D. Mohanlal**  
Anna University, Chennai, India.
- 5. Dr. Raja Balakrishnan**  
IIITDM, Chennai, India
- 6. Dr. Thirumal Azhagan**  
MIT, Chennai, India
- 7. Dr. K. Kalaiselvan**  
Anna University, Chennai, India
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NIT, Trichy, India
- 9. Dr. N. Nallusamy**  
SSN College of Engineering, Chennai, India
- 10. Dr. T.P.D. Rajan**  
CSIR - NIIIST, Trivandrum, India
- 11. Dr.A. Srinivasan**  
CSIR - NIIIST, Trivandrum, India
- 12. Dr. B. Arivazhagan**  
IGCAR, Kalpakkam, India

## CALL FOR PAPERS

Full length papers are invited as hard copy (1 No.) as well as a soft copy. The full length paper should not exceed 8 A4 size pages in font size 12, single spacing, including text, figures, photographs, tables etc. Paper should be in single column with margin 1.25 inch from left and 0.5 inch on the remaining sides. Conference proceedings will include only those accepted papers for which the registration fee has been paid before 7<sup>th</sup> March 2018. Authors are requested to send the full length paper in soft copy by e-mail.

## IMPORTANT DATES

Submission of full length paper	:	12 <sup>th</sup> February 2018
Intimation of acceptance	:	1 <sup>st</sup> March 2018
Last Date for registration	:	7 <sup>th</sup> March 2018

## REGISTRATION FEES

Delegates from Industries	:	₹ 1000
Delegates from academic Institutions	:	₹ 750
Students and Research Scholars	:	₹ 500

For each accepted paper to be published in proceedings, at least one of the authors has to register for participation. The registration fees should be paid by Demand Draft in favour of "The Principal, Velammal Engineering College, Chennai", payable at Chennai.

The registration fee includes conference proceedings, working lunch and refreshments.



**CHIEF PATRON**

**Shri. M.V. Muthuramalingam**  
Chairman, Velammal Educational Trust

**PATRON**

**Shri. M.V.M. Velmurugan**  
CEO, VEC

**CO-PATRON**

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Advisor

**Dr.N.Duraipandian**  
Principal

**CONVENER**

**Dr.E. Ganapathy Sundaram**  
Head, Department of Automobile Engineering

**CO-CONVENERS**

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Head, Department of Mechanical Engineering

**Dr. P. Jawahar**  
Head, Department of Production Engineering

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**Mr. M. Gnanavel**  
Assistant Professor, Department of Production Engineering

**National Conference on  
Emerging Research and Advances in Mechanical Sciences**

# **ERAMS-2018**

14<sup>th</sup> March 2018

## **REGISTRATION FORM**

Name : .....

Designation : .....

Institution : .....

Address : .....

Phone : .....

Mobile : .....

E-mail : .....

### Details of Registration

a. Amount ₹ : .....

b. DD No. and Date : .....

c. Name of the Bank : .....

Date : .....

Signature of the Delegate

\* If required, photocopy may be used

**ADDRESS FOR CORRESPONDENCE**

**Dr.V.Chandran**  
**Organizing Secretary**

**ERAMS-2018**

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