

Proceedings of the 3rd National Conference on Modern Trends in Mechanical Engineering



7th & 8th April 2014



MTIME-14

Organized by



Department of Mechanical Engineering

(NBA Accredited)

**Sree Narayana Gurukulam
College of Engineering**

Kadayiruppu, Kolenchery, Kerala-682311

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Proceedings of the National Conference on Modern Trends in Mechanical Engineering (MTIME-14)

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Department of Mechanical Engineering
Sree Narayana Gurukulam College of Engineering,
Kadayiruppu P O, Kolenchery, Ernakulam Kerala-682312
on 07th and 08th April 2014.

About the Institution

Sree Narayana Gurukulam College of Engineering is a new age, multi-disciplinary institute offering a portfolio of courses in Engineering, Computer Applications and Management streams. Ensuring the right blend of academic rigor and business focus of the industry, the institution has transformed into a trend setter in professional education since 2002. SNGCE prides itself in creating a congenial academic environment, conducive to learning on the strength of most modern infrastructural facilities provided by the management and a highly motivated and competent team of faculty constantly endeavoring to mould world-class professionals of the future. The college is affiliated to Mahatma Gandhi University, Kottayam, Kerala and approved by the All India Council for Technical Education, New Delhi. SNGCE is an ISO 9001:2008 certified Institute and five departments of which are accredited by NBA. The college offers B. Tech and M.Tech courses in Civil, Mechanical, Electrical and Electronics, Electronics and Communication, Computer Science and Engineering disciplines, apart from PG courses such as MBA and MCA. The institution was initiated by Sree Narayana Gurukulam Trust, a registered charitable trust formed by a group of visionaries, with an aim to uphold the ideals of Sree Narayana Guru (1855-1928), the great sage and social reformer who is considered as the leader of Indian Renaissance movement. The Institution is situated at Kadayiruppu, near Kolenchery town and is in the district of Ernakulam.



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About the Department

Since its inception in the year 2004, The Department of Mechanical Engineering has earned many laurels from the engineering community. The department is accredited with NBA and offers B Tech. in Mechanical Engineering and M Tech. in Machine Design with focus on understanding of key concepts including mechanics, kinematics, design, production and thermodynamics. It is equipped with laboratories which are one of the best in its class in Kerala which includes latest CNC machining center and 3D printer. Batches that have completed the course are placed at key positions in core manufacturing sectors and other Industries. 32 members of faculty and 12 non-teaching staff actively participate in the teaching-learning process. In addition to academics, department is giving importance to co-curricular activities through EDC (Entrepreneurship development club), Robotics club, ISHRAE-students' chapter (Indian Society for Heating, Refrigerating and Air Conditioning Engineers) and RDTEC (Rural development Technology). The department is also focusing attention on R&D activities, joining hands with Industry.



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Preface

The National Conference on Modern Trends in Mechanical Engineering (MTiME-14) aims at providing a common platform for professionals, academicians, researchers and industrialists together to share their knowledge and ideas for achieving focused developments and advancements in the emerging fields of mechanical engineering. The conference will help participants to expand their knowledge horizons through active participation and discussions. The Broad themes of the conference include Advanced Materials and Manufacturing Methods, Green Energy Production, Advancement in Thermal Engineering, Application of Nanotechnology in Mechanical Engineering, Advanced Technology for Process/Quality Control and Digital Simulation Technique in Machine Design.



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Executive Director's Message

I am very heartened to know that the department of Mechanical Engineering is hosting a relevant, inspiring and enlightening event MTiME-14 (Modern Trends in Mechanical Engineering). I learn that many technocrats, educationalists and academic personnel from various levels are involved in this National Conference to exchange their experiences in the respective domain. This technical programme brings together academic luminaries.

A conference of this magnitude and importance requires the dedication and effort of remarkably talented individuals. I take this opportunity to congratulate the members of the department for having devoted their time to ensure that the preparations for the smooth conduct of the programme are done properly. I wish the organizing committee, Department of Mechanical Engineering, the very best in their endeavor and my best wishes to all the participants and delegates.

Wish the conference a grand success.

Mr.M.A. Raju



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Director's Message

I am extremely happy to know that the Mechanical Engineering Department is organizing a national conference on Modern Trends in Mechanical Engineering (MTiME-14). This conference would definitely be an inspiration and motivation for the students and staff to enhance their knowledge in Mechanical Engineering field. Researchers from various streams of mechanical engineering will be sharing their research work in the conference. More over technical talks by well known resource persons and interaction with students will give them knowledge about the present trends in the engineering field.

I congratulate all the members of Mechanical Engineering department for organizing this conference and I wish all the success for their future endeavors. May this conference give them the experience and motivation to conduct an International conference.

Prof.(Dr.)C.E. Krishnan



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Principal's Message

I recognize that national conference MTiME-14 (Modern Trends in Mechanical Engineering) is the culmination of enormous collective hard work by the department of Mechanical Engineering. The various sessions of the event are skillfully crafted to enhance and develop the technical knowledge of the students and the participants. The purpose of this conference is to bring together researchers, experts from industry, academia, and other interested organizations to meet, exchange information's and ideas about the developments in the field of Mechanical Engineering.

I would like to express my appreciation to the coordinators, for their effort, in organizing the conference which is of National relevance. I hope this conference MTiME-14 will be enjoyable, memorable and productive for the participants and looking forward to further technological events that results from your networking and discussions.

I wish good luck for the conference.

Prof.(Dr.)Saji C.B



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HOD'S Message

National Conferences are being organized by the department of Mechanical engineering in serial and MTiME-14 is the conference of the year 2014. It is an occasion when everybody in the department moves in harmony to put in their intellectual & physical energy for the culmination in to a successful conference, counted in National level. The response from academia, industry and research organizations is indeed encouraging. Year by year the 'MTiME' is growing in dimension through number of participants, papers being received, subjects deliberated and the depth of probing into technology. The chief guest inaugurating the conference is a renowned engineer & scientist in the field of space technology, Padma Vibhushan Dr.G. Madhavan Nair, Former Chairman, ISRO. The event is slated to be conducted in 2 days, 7th & 8th of April 2014.

With the ample support from management and concerted efforts by the team behind MTiME-14, I hope the conference will be a success and I wish all the best.

Prof.K.R. Rajan



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PROGRAMME SCHEDULE

		Seminar Hall 1	Seminar Hall 2
07.04.2014, Monday	9.00 am-10.00 am	Registration	
	9.30 am-10.45 am	Inaugural Function Chief Guest: Dr.G. Madhavan Nair, Former Chairman, ISRO	
	10.40 am-12.30 pm	Interaction of Chief Guest Dr.G. Madhavan Nair with Students	
	12.30 pm-1.30pm	Lunch Break	
	1.30 pm – 2.30pm	Keynote Address: Dr.K. Prabhakaran Nair, NIT, Calicut	
	2.30 pm-4.00 pm	Session I - Chaired by Dr. Brijesh Paul, MA College of Engineering, Kothamangalam	Session II- Chaired by Dr. Manoj Kumar P, SCMS, Karukutty
08.04.2014, Tuesday	9.00 am-10.30 am	Session III- Technical Talk Dr. N R Manoj, Scientist- F, NPOL, Thrikkakkara	
	10.30 am-10.45 am	Tea Break	
	11.00 am-12.30 pm	Session IV-Chaired by Dr. Jeju M Issac, MA College of Engineering, Kothamangalam	Session V- Chaired by Dr. P V Shouri, MEC, Thrikkakkara
	12.30 pm-1.30pm	Lunch Break	
	1.30 pm-3.00 pm	Session VI- Chaired by Dr. Pramod, VJCET, Vazhakkulam	
	3.00 pm to 3.15 pm	Tea Break	
	3.15 pm-4.20 pm	Valedictory Function	

Contents

Paper ID	Title/Author	Page No.
1	Analysis of Effect of Ballast on Hydro-Static Stability of an Underwater Towed Body <i>P. Prabhasuthan, T.C. Vidhun, P. Vinod and O.R. Nandagopan</i>	1
2	Comparative Study of Glass/Epoxy, Graphite/Epoxy Composite Material with C-15 for Pressure Vessel <i>Cherian Johnny and Binu P.P</i>	5
3	Compound Parabolic Concentrated Photovoltaic System <i>Arun.B.S and AskkarAli.P</i>	12
4	Design and Analysis of Linear Medium Density Polyethylene (LMDPE) Water Tank <i>K.R. Sivadas and Rajesh R</i>	16
5	Design of Francis Turbine Runner Blades to Minimize Sediment Erosion <i>Rakesh Jose, Dr.N. Palaniyappan and Dr.K. Kumareshan</i>	21
6	Design of Hybrid Aluminum/ Composite Drive Shaft for Automobile <i>Arun Basil Jacob and Dr. Sivadas R</i>	25
7	Development of PMC using Unsaturated Polyester and Micro Cellulose Obtained from Pineapple Leaf Fibre <i>K. Panneerselvam, K. Shunmugesh, Varun Kaniyamattam, Noel Babu, Sebin Thomas and Jom Mathew</i>	29
8	Energy and Exergy Analysis of Ruston Diesel Engine <i>Lakshman R, Ramesh A and Ajith Francis.P</i>	32
9	Experimental and Analytical Studies on Photovoltaic Thermal Air Collector <i>Unnikrishnan M.M and Fazludheen C</i>	38
10	High Temperature Behavior of Polyester/Cloisite-15A Nanocomposite <i>Binu.P.P, K.E. George and M.N. Vinodkumar</i>	42
11	Improving Production Performance through Lean Manufacturing Techniques in a Manufacturing Firm <i>Cigil Sebastian and Jibi R</i>	46
12	Investigation of TiO ₂ Nano Particles on VCR Refrigeration System <i>Arun Mohan, Jiju P.P and Dr. Jeoju M Issac</i>	51
13	Jatropha Biodiesel as an Alternative Fuel of Di Diesel Engine <i>V. Pushpanathan and S. Pachaiyappan</i>	55
14	Material Testing and Analysis of Laser Hybrid Weld Joints <i>Anoop.V, Pratheesh G Panicker and Prof.(Dr.)ShajanKuriakose</i>	58
15	Modification of Steam Generator for Operating Fast Breeder Test Reactor near Design Temperature <i>P. Balamurali, K.V. Suresh Kumar and A.Babu</i>	62

16	Optimization of Machining Parameters in Milling of Micro-Level Coir Pith Fiber Reinforced Composites	66
	<i>K. Panneerselvam, K. Shunmugesh, Varun Kaniyamattam, Noel Babu and Sebin Thomas</i>	
17	Optimization Technique for the Analysis of Process Parameters in Friction Stir Processing	71
	<i>Pramod Ramakrishnan</i>	
18	Parametric Optimization of Sand Cast Parameters for Quality using Response Surface Methodology	75
	<i>Rathish R, Dr.K.S. Amirthagadeswaran and Sripriya Gowrishankar</i>	
19	Performance Analysis of Monocrystalline Solar Panel using Monochromatic Lights	80
	<i>Jayakrishnan.R and Dr. Shouri P.V</i>	
20	Study of the Influence of Safety Factors by Performing Factor Analysis	86
	<i>Abhijith Jacob</i>	
21	Thermal Evaluation of a Sealed Electronic Cabinet using FloTHERM	90
	<i>Alex Paul, Madhavan Nampoothiri S, M Sabu Sebastian and Madhu A K</i>	
22	Vacuum Brazing of 301 Stainless Steel to Pure Silver Using Silver-Copper Based Braze Foil	96
	<i>Sherin Thampi, D. Noorullah and P.G. Venkatakrishnan</i>	