## International Conference on Advances in Mechanical Engineering

## (AME 2010)

### Kerala, India 21-22 December 2010

**Editor:** 

Vinu V. Das

ISBN: 978-1-62993-396-2

Printed from e-media with permission by:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2010) by The Institute of Doctors Engineers and Scientists (IDES) All rights reserved.

Printed by Curran Associates, Inc. (2014)

For permission requests, please contact IDES-CPS at the address below.

IDES-CPS Prins Hendriklaan 19 1075 AZ Amsterdam, Netherlands

Phone: +31-6855 84465

cps.info@theides.org

#### Additional copies of this publication are available from:

Curran Associates, Inc. 57 Morehouse Lane Red Hook, NY 12571 USA Phone: 845-758-0400 Fax: 845-758-2634 Email: curran@proceedings.com Web: www.proceedings.com

# **Table of Contents**

| 1.  | Simulative study of cause-effect interdependencies in tool logistics<br>Anis Selaouti, Jens Knigge and Rouven Nickel   | 1-9   |
|-----|--|-------|
| 2.  | Balancing WIP and Throughput with Machine Utilization in a Manufacturing<br>Facility<br>Ramesh V. Narang   | 10-14 |
| 3.  | Automatic Structural Optimization of Engine Components Using HCF and TMF<br>Failure Analysis and Optimization Models<br>J. David Rathnaraj, G. Jims John Wessley and Rajakumar S Rai | 15-17 |
| 4.  | Diesel Engine Combustion Simulation using Computational Fluid Dynamics<br><i>R. Bhoobathi, Shaik Amjad, and R. Rudramoorthy</i>  | 18-22 |
| 5.  | Effect of Arresters on Erosion in Economizer Zone and its Analysis<br>Deendayal Yadav, G. V. Parishwad, P. R. Dhamangaonkar,<br>S. R. Kajale, M. R. Nandgaonkar and S. N. Sapali     | 23-27 |
| 6.  | Optimal Capacitor Placement in Distribution System using Fuzzy Techniques<br>Anwar Shahzad Siddiqui, Sheeraz Kirmani, and Farrukh Rahman   | 28-31 |
| 7.  | Sheet Metal Micro Forming: Future Research Potentials<br>Manish Oraon and Vinay Sharma   | 32-37 |
| 8.  | Prediction of Small Size Pneumatic Tyres for Tyre Traction Properties<br>S Srinivasa Rao, K Ramji and K Sri Harsha   | 38-41 |
| 9.  | PC-based Vision System for Operating Parameter Identification on a<br>CNC Machine<br><i>R. Ramesh</i> , <i>A. Rishita, S. Jyothirmai and U. Surya Prabha</i>                         | 42-44 |
| 10. | Development of Product Configurator for a Pressure Booster System<br>Rajesh R. Sampathkumar  | 45-47 |
| 11. | Performance Analysis of Variable Compression Ratio Engine using Diesel<br>K.Manikanta, K.Anil and B.Manoj Prabhakar  | 48-49 |
| 12. | Realizing Potential of Graphite Powder in Enhancing Machining Rate in AEDM of Nickel Based Super Alloy 718<br>Anil Kumar, Sachin Maheshwari, Chitra Sharma and Naveen Beri           | 50-53 |
| 13. | Experimental and Numerical Assessment of Crash Behavior of Welded<br>Thin Wall Rectangular Steel Sections<br>Veerasamy M and Raghu V. Prakash  | 54-57 |

| 14. | Experimental Investigation on Heat Transfer Enhancement in Laminar Flow in<br>Circular Tube Equipped with Different Inserts<br>V. N. Kapatkar, A. S. Padalkar and Sanjay Kasbe                                    | 58-63   |
|-----|---|---------|
| 15. | Analysis of Crack Severity on Power Density Increment of Gears<br>R. Saravanan, Raghu V. Prakash, R. Gnanamoorthy and Vinodkumar Boniface   | 64-68   |
| 16. | Manipulation of Water Hammer Problem by Modification of NRV Valve<br><i>T. Stali and C. Manivannan</i>  | 69-72   |
| 17. | Influence of Thrust, Torque Responsible for Delamination in drilling of<br>Glass Fabric – Epoxy / Rigid polyurethane foam sandwich hybrid composite<br>S. Madhavan, T. Lakshmi Narayanan,K.A. Anant and Sathappan | 73-77   |
| 18. | Designing of Offshore DNV Container<br>Mihir Prakash Vaidya and P.M.Khanwalkar  | 78-81   |
|     | LAT Improvement of Engine driven Screw Compressor using separate entry for<br>Air Inlet<br>Mihir Prakash Vaidya and P.M.Khanwalkar  | 82-84   |
| 20. | Statistical Modeling of Surface Roughness produced by Wet turning using soluble<br>Oil-water mixture lubricant<br><i>L B Abhang and M Hameedullah</i>   | 85-89   |
| 21. | Optimization of the Superfinishing Process Using Different Types of Stones S.S. Chaudhari, G.K. Awari and S.S. Khedkar  | N/A     |
| 22. | Analysis of 3-D Model in ANSYS 9.0 by Java Program and Macros Using<br>Interlinking Concept Verification Though the CFD Analysis<br>S.S. Khedkar, S.S. Chaudhari and P.D.Kamble                                   | 90-93   |
| 23. | Design and Development of Electromechanical Juicer- Mixer-Grinder<br>Shamshad Ali and Gurdeep Singh   | 94-96   |
| 24. | Algorithm for Modeling Unconventional Machine Tool Machining Parameters<br>Using Artificial Neural Network<br>D. Vasudevan and G. Sankara Narayanan   | 97-99   |
| 25. | Taguchi Method for Optimization of Cutting Parameters in Turning Operations<br><i>Sijo M.T and Biju.N</i>   | 100-102 |
| 26. | Design of Pedal Operated Machine for Injection Moulding<br>Shamshad Ali and Anis Ahmad Ansari   | 103-105 |
|     |   |         |

AUTHOR INDEX