



## Proceedings of Second International Conference on: Advanced Production and Industrial Engineering - ICAPIE 2017

R S Mishra, Ranganath M Singari & Samsher

2017                                      544 pp                                      Hardback                                      ISBN: 9789384588076                                      Price: 3,995.00

### About the Book

This volume of proceedings is a collection of research works designed for use of scientists / teachers of Mechanical, Production & Industrial Engineering. In addition, it will be useful for research scholars in the area of Mechanical, Production and Industrial Engineering. Undergraduate students may also refer this book for their research/project works. This collection demonstrates working procedure for conducting experiments with the application of various techniques. The chapters here are the research papers selected from International Conference on Advanced Production and Industrial Engineering, (ICAPIE 17) held during 6-7 October 2017, organized by Centre for Advanced Production and Industrial Engineering Research (CAPIER), Department of MPIAE, Delhi Technological University, Delhi. India.

### Table of Contents

- 1- Effect of Compaction Pressure on the Properties of Al-B4C Composite Manufactured via Powder Metallurgy
- 2- Mechanical Properties and Water Absorption Behaviour of Human Hair and Borassus Fruit Fibre/Human Hair Hybrid Composite
- 3- Experimental Investigation of Electric Discharge Drilling with Multiple Hole Electrode on MMCs
- 4- Process Improvements in Pretreatment of Lignocellulosics for Ethanol Production: A Combinatorial Approach
- 5- Experimental Investigation of Process Performance on Surface Roughness during CNC Turning Aluminium-6061 in Dry Condition
- 6- An Experimental Study of Hot Forming on Aluminium Sheet Using Erichsen Cupping Test Machine
- 7- Evaluation of Cutting Force and Surface Roughness in End Mill of Aluminum Alloy Grade D20
- 8- Development and Evaluation of Polypropylene Pigeon Pea Stalk Biocomposites
- 9- Development of Electrochemical Discharge Machining Process for Non-conductive Materials: A Review
- 10- Experimental Analysis of Process Parameters in CNC Turning Using Response Surface Methodology
- 11- Mechanical Properties and Formability of Fe-P Alloys Processed Through Powder Metallurgical Technique
- 12- Mechanical Characterization of Woven Palmyra/Coir Fibre Reinforced Hybrid Polyester Composites
- 13- Magnetorheological Finishing: A Review
- 14- Development and Characterization of Sintered Magnetic Abrasives
- 15- Surface Modification of Cast Magnesium Alloy Through Friction Stir Processing
- 16- Surface Modification of Carbon Steel Via Friction Stir Processing
- 17- Comparative Study of CNT and Alumina based Abrasive Laden Media for Abrasive Flow Machining
- 18- Wear Studies of Al7075/ ZrB2 Surface Composites
- 19- Recent Development in Polymeric Hybrid Composites: Opportunities and Challenges
- 20- Synthesis and Physicochemical Characterization of LiMn2O4 as Cathode Material for Lithium Ion Battery Using Two Different Routes
- 21- Optimization of Cutting Parameters on Surface Roughness in Turning of Mild Steel Using Taguchi Method
- 22- Neuro Fuzzy Study for Optimization of Process Parameters of Turning Operation for Aluminum (6063)
- 23- Real-Time Wireless Hand Gesture Mimicking Robotic Arm Using Computer Vision
- 24- Finite Element Analysis and Multibody Dynamics of 6-DOF Industrial Robot
- 25- Parametric Optimization by Hybrid GA-ANN during CNC Tuning
- 26- Optimization of Cutting Parameters in Turning of Inconel 718 Using Nanofluid as a Coolant
- 27- Parametric Optimization of Process Parameters on Electrical Discharge Machining Using Taguchi Optimization on SS 410
- 28- Finite Element Analysis of Localised Defects in Deep Groove Ball Bearing
- 29- Parameter Optimization of Ultrasonic Machining Process Using Bio-geography Based Algorithm
- 30- Multi-objective Facility Layout Problem Using Non-Dominated Sorting Genetic Algorithm (NSGA-II)

- 31- CFD Analysis of Propeller Blade Design for Quadrotor
- 32- Optimisation of Process Parameters on Performance Measures of Electrical Discharge Machining by Using Taguchi Technique
- 33- Reconfigurable Manufacturing System: A New Manufacturing Paradigm
- 34- Route Selection of Jobs in FMS by Fuzzy Set Approach
- 35- An Approach for Selecting Suitable Flexible Manufacturing System Using Fuzzy AHP and WASPAS Method
- 36- Quick and Easy Analysis of a Flexible Manufacturing System Using ARENA
- 37- An Analytical Approach for Fabrication of Mold Cavity Using Reverse Engineering (RE)
- 38- Selection of Proper Medium for Digital Marketing: Multi-Criteria Decision Making Problem
- 39- Method of Obtaining the Complete Profile from Old/Broken Parts Using Reverse Engineering
- 40- Process Mapping of Quality Control for Machining Section of an Industry
- 41- Identification of Critical Success Factors for Sustainable Manufacturing System
- 42- Efficiency Evaluation of Commercial Banks in India Using DEA
- 43- Challenges of Supply Chain Management in Implementation of Industry 4.0
- 44- Exploring Challenges of Pharmaceutical Industry in Supply Chain by Using DEMATEL Approach
- 45- Circular Economy: A Future Perspective for Sustainable Development
- 46- An Analysis of Global Sourcing in Indian Auto-Component Sector
- 47- Impact of Globalisation on the Economic Growth of India
- 48- Empirical Assessment of Causal Relationship Among Supplier Selection Criteria Using DEMATEL Approach: A Survey
- 49- Study of Issues on Integration of a Leagile Supply Chain
- 50- Sustainable Development of Delhi City Transport System
- 51- A Review of Green Practices in Indian Small and Medium Enterprises (SMEs)
- 52- Design & Simulation of Transformerless Power Converters for Solar Application
- 53- Mathematical Modeling for Load Shift in the Four Wheel Vehicle to the Front or Rear Axle When the Vehicle Brakes or Accelerates
- 54- Demonetisation: A Gamble or Strategic Move?
- 55- Study the Effect of Various Factors on Springback in AA6082-T6 Sheet
- 56- Fuel Injection Pressure and Injection Timing Effects on Diesel Engine Performance, Emissions Using Polanga Biodiesel Blends
- 57- Designing of Polypropylene-Fly Ash Composite with Enhanced Mechanical Properties
- 58- Designing and Development of a Single Cavity Mould with a Loose Core Insert Arrangement
- 59- Influence of Pulse on Time and Pulse Current in Wire Electrical Discharge Machining of Titanium (Ti-6Al-4V) Alloy
- 60- An Approach Towards Greener Production: Experimental Evaluation of a Non-Edible Oil Based Cutting Fluid.

---

#### **About the Author**

**R S Mishra** :- Currently the Head of the Department, Mechanical, Production & Industrial Engineering and Automobile Engineering, Delhi Technological University. Prof. Mishra is a Doctorate from IIT Delhi in 1986, has made distinguished contribution to the advancement of frontiers of knowledge in the areas of Solar Energy Technology, Power Plant Engineering, New and Renewable Energy Resources and Total Quality Management.

**Samsheer** :- is Professor & Dean, Department of Mechanical, Production & Industrial Engineering and Automobile Engineering, Delhi Technological University. Earlier he has served as Director of Delhi, Chandigarh, Shimla, Ropar, Ajmer, Gorakhpur, Lucknow and Patna centres of National Institute of Electronics and Information Technology (NIELIT). He is a postgraduate and Doctorate from IIT Delhi (2007) and has more than 30 years of teaching and research experience. He has made distinguished contribution in the area of Thermal Engineering. He has published a good number of papers in journals and conferences. He is a Fellow of Institution of Engineers (India), Life member of ISTE, and ISME .

**Ranganath M Singari** :- Associate Professor, Department of Production & Industrial Engineering, Delhi Technological University, is a Post-graduate and Doctorate from University of Delhi and has more than 22 years of experience in industry, teaching and research. He has made contributions in the areas of Production Engineering, Metal Cutting, Advanced Machining, Industrial Engineering and Automation.