1. Record Nr. UNINA9910254353603321 Innovative Design and Development Practices in Aerospace and Titolo Automotive Engineering: I-DAD, February 22 - 24, 2016 / / edited by Ram P. Bajpai, U. Chandrasekhar Singapore:,: Springer Singapore:,: Imprint: Springer,, 2017 Pubbl/distr/stampa 981-10-1771-9 **ISBN** Edizione [1st ed. 2017.] Descrizione fisica 1 online resource (XX, 607 p. 396 illus.) Lecture Notes in Mechanical Engineering, , 2195-4356 Collana Disciplina 620.0042 Soggetti Engineering design Aerospace engineering **Astronautics** Automotive engineering **Engineering Design** Aerospace Technology and Astronautics Automotive Engineering Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references at the end of each chapters and index. Nota di contenuto Chapter 1. Promising Configurations for Future Passenger Aircraft --Chapter 2. Ultrasonic Material Characterization and Testing of Anisotropic Components -- Chapter 3. Measurement of Some Special Parameters of Engines -- Chapter 4. The Wind-Tunnel Test and Unsteady CFD of an Ornithopter Formation -- Chapter 5. Strategies for Better Fuel Economy, Light Weighting & Friction Reduction in Cylinder Components of IC Engines -- Chapter 6. Fatigue and Fracture Reliability of Additively Manufactured Al-4047 and Ti-6Al-4V Alloys for Automotive and Aerospace Applications -- Chapter 7. Recent Advances in High Temperature Structural Integrity -- Chapter 8. Future Technology Scenarios for Urban Mobility in India -- Chapter 9. Wiring the Tin-Silver-Copper Alloy by Fused Deposition Modeling -- Chapter 10. Design and Study of Aerodynamics of Wind-Solar Hybrid System for Domestic Application by Using Balsa Wood -- Chapter 11. An

Automated System for Motioning the Cargo for Ground and Air

Operations -- Chapter 12. Analytical Studies on TIG Welding of Ti-6al-4v Alloy Plates Using CAE -- Chapter 13. Shape Parameterization of Airfoil Shapes Using Bezier Curves -- Chapter 14. Flow Configuration Influence on Darcian and Forchheimer Permeabilities Determination --Chapter 15. An Experimental Study on Flow of Micronized Silicon Carbide Particles through Sintered Porous Materials -- Chapter 16. Design and Fabrication of a Quick Dismantlable Remotely Controlled Semi-rigid Finless Airship -- Chapter 17. Experimental and Simulation Study of Modified Acoustic Horn Design for Sonic Soot Cleaning --Chapter 18. Fuzzy Logic Simulation for Brake by Wire Control System --Chapter 19. Effect of Permeability on the Rayleigh Type Acoustic Streaming -- Chapter 20. Effect of Print Angle on Mechanical Properties of FDM 3D Structures Printed with POM Material -- Chapter 21. Finite Element Analysis of Surface Grinding Process using Nano Fluids --Chapter 22. Resonance Behavior of Steam Turbine Blades with Zigzag Lacing Pins -- Chapter 23. Optimization of GTAW Process Parameters on Mechanical Properties of AA 7075 - T6 Weldments -- Chapter 24. Experimental Investigation on the Effectiveness of Active Control Mechanism on Base Pressure at Low Supersonic Mach Numbers --Chapter 25. A Review on the Trends and Developments in Hybrid Electric Vehicles -- Chapter 26. Design of Expert Combustion Monitoring System -- Chapter 27. Structural Performance Analysis of SAE Supra Chassis -- Chapter 28. Parametric Optimization of FSAE Restrictor for Random Vibrational Analysis -- Chapter 29. Taguchi's Parametric Approach in Optimizing Selective Inhibition Sintering Process Variables -- Chapter 30. Design of an Aircraft Wing for Given Flight Conditions and Planform Area -- Chapter 31. Investigations on the Influence of Mechanical Behaviour of Copper Aluminum Nickel Powder Compacts Processed Through Powder Metallurgy -- Chapter 32. Investigations on the Performance of Various Bio-fuels along with Low Thermal Conductivity Piston Crown in a Diesel Engine -- Chapter 33. Design and Development of FPGA based MAGLEV System for a Lowspeed Wind Tunnel -- Chapter 34. Performance Investigation of High Temperature Combustion Technology (HICOT) Using CFD Simulation --Chapter 35. Calculation of Theoretical Performance of Boron-Based Composite Solid Propellant for the Future applications -- Chapter 36. PreSTo Wing Module Optimization for the Double Trapezoidal Wing --Chapter 37. Optimization Technique Applied for Method of Evaluation of a Controllable Factor of FSAE Car Chassis -- Chapter 38. Multiobjective Optimization of EDM Process Parameters Using PCA and TOPSIS Method during the Machining of Al- 20%SiCp Metal Matrix Composite -- Chapter 39. Study of Static Stall Characteristics of a NACA 0012 Aerofoil Using Turbulence Modelling -- Chapter 40. Effect of Compaction Aspect Ratio on Wear Characteristics of Sinter Extruded Pure Copper Processed through Powder Metallurgy Route -- Chapter 41. Optimization of Process Parameters and Investigation on Surface Characteristics during EDM and Powder Mixed -- Chapter 42. Evaluation of Tensile Properties of Natural Silk and Coir Fibers --Chapter 43. Comparison of Turbulence Models in Simulating Axisymmetric Jet Flow -- Chapter 44. Finite Element Analysis of High Strength Polymers Interaction with Inhibitors in Selective Inhibition Sintering Process -- Chapter 45. Optimization of Process Parameters of Powder Additive Mixed Electrical Discharge Machining -- Chapter 46. A Spring-activated Quick-response Mechanism for Legs of a Mooring Mast: Conceptual Design and Analysis -- Chapter 47. Aluminum Agglomerate Size Measurements in Composite Propellant Combustion -- Chapter 48. Handling Simulation and Experimentation of an Armoured Multi-axle Vehicle with Multi-axle Steering -- Chapter 49.

Analysis of Air to Air Rotary Regenerator for HVAC Systems Using CFD -- Chapter 50. Design & Optimization of a Steering Knuckle of FSAE Car -- Chapter 51. CFD Analysis of Flapping Wing for MICAV Application -- Chapter 52. GA Based Multi-objective Optimal Control of Nonlinear Quarter Car Suspension -- Chapter 53. Study of the Influence of the Process Variables on Formability and Strain Distribution in Incremental Sheet Metal Working of Aa 1050 Sheets -- Chapter 54. Operating Characteristics of Multi Cylinder Petrol Engine Using LPG with Methanol -- Chapter 55. Advances in Light Weighting Materials for Body-in-white (BIW) -- Chapter 56. Health Monitoring for Armoured Fighting Vehicles -- Chapter 57. Orbital Parameters Variations of IRNSS Satellites -- Chapter 58. Cabin Control System on Temperature Impact Using Occupant Detection Scheme for M1 Category Vehicles -- Chapter 59. Viabilities of Replacing Combustion Engine By Electromagnetic Engine -- Chapter 60. Comparative Approach towards Modified Smith Predictor and Back Calculation Design for Conical Tank Level Process Control -- Chapter 61. A Study of Effect of Piston Bowl Shape on Engine Performance and Emission Characteristics of a Diesel Engine -- Chapter 62. Investigation of a Novel Turboprop Driven Aircraft Concept Including Future Technologies.

Sommario/riassunto

The book presents the best articles presented by researchers, academicians and industrial experts in the International Conference on "Innovative Design and Development Practices in Aerospace and Automotive Engineering (I-DAD 2016)". The book discusses new concept designs, analysis and manufacturing technologies, where more swing is for improved performance through specific and/or multifunctional linguistic design aspects to downsize the system, improve weight to strength ratio, fuel efficiency, better operational capability at room and elevated temperatures, reduced wear and tear, NVH aspects while balancing the challenges of beyond Euro IV/Barat Stage IV emission norms, Greenhouse effects and recyclable materials. The innovative methods discussed in the book will serve as a reference material for educational and research organizations, as well as industry, to take up challenging projects of mutual interest.