

Technical Program Schedule

ICTACEM 2017
SEVENTH
INTERNATIONAL CONFERENCE
ON
THEORETICAL, APPLIED, COMPUTATIONAL AND
EXPERIMENTAL MECHANICS
DECEMBER 28-30, 2017



**DEPARTMENT OF AEROSPACE ENGINEERING
INDIAN INSTITUTE OF TECHNOLOGY
KHARAGPUR – 721 302, INDIA**

**International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM)
28-30 December 2017**

**Department of Aerospace Engineering
IIT Kharagpur, Kharagpur 721 302, India**

Date: 28.12.2017

Registration: 8.00AM-9.00AM

Venue: Foyer of Vikramshila Complex, IIT Kharagpur

Inaugural Session: 9.00AM – 9.30AM

Inaugural Lecture by Chief Guest, Dr. A. R. Upadhy, Ex-Director, NAL, Bangalore : 9:30 AM – 10.30 AM

Venue: Kalidas Auditorium, IIT Kharagpur

Inauguration

Tea Break: 10.30AM – 11.00AM

Technical Program

December 28, 2017 (Thursday)

Theme: KEYNOTE/ INVITED TALKS

Time: 11.00AM - 1.15PM

Session Ko1 Venue: Maitrayee Hall		Session Ko2 Venue: Gargi Hall	
Present and Future Thermo-Fluid Challenges in Aero-Engines- Kali Charan Nayak, Specialist Thermo-fluid System, Aviation & Aerospace, Rolls-Royce, Bangalore, India		Removal of Space Debris-Prof. Arun K. Misra, Thomas Workman Professor, Department of Mechanical Engineering McGill University, Montreal, Canada	
Managing Vorticity of Separated Shear Layer to Control Two-Dimensional Wake Dynamics- S.D. Sharma, Professor, Department of Aerospace Engineering IIT Bombay		Structural Optimization of an Automobile Hood Using Natural Flax Fiber Reinforced Plastic Composites and RIM Manufacturing Method- Prof. Changduk Kong, Department of Aerospace Engineering, Chosun University, South Korea	
Control of Hooting in Gas Turbine Combustor-Dr. Abhijit Kushari, Associate Professor, Department of Aerospace Engineering, Indian Institute of Technology, Kanpur.		Gas Turbine Blade Cooling Technologies-Dr. B.V.S.S.S.Prasad Professor and Head, Department of Mechanical Engineering IIT, Madras.	

Lunch Break: 1.15PM - 2.00 PM

Main Theme : Contributory Papers			
2.00PM - 3.30PM			
Session: Co1 Venue: Maitrayee Hall Theme: Structures	Session: Co2 Venue: Gargi Hall Theme: Propulsion / combustion	Session Co3 Venue: Venue 3 (V3) Theme: Aerodynamics/ CFD	Session Co4 Venue: Venue 4 (V4) Theme: Flight Mechanics and Control
<p>184. Electrodeposited Functional Polymer Nano-composites (EFPNC)- Futuristic Materials for Aerospace and Electronic Applications Dr. Ashok Kumar Shukla</p> <p>185. Gravity Wave Interaction with Multiple Submerged Porous Structures on Impermeable Multi-step Bottom V. Venkateswarlu and D. Karmakar</p> <p>187. Fatigue Crack Growth Simulation In Functionally Graded Materials Using Level Set Methodology In Framework Of Element Free Galerkin Method. Sahil Garg , Deepak and Mohit Pant</p> <p>191. Fatigue Life Assessment of an Existing Railway Bridge in India Incorporating Uncertainty. Mrinal Chandaa ; Kishore Chandra Misra , and Soumya Bhattacharjya</p> <p>192. Determination of Coupling factors of Bolted Plates using Finite element Analysis. Achuthan. C. Pankaja, and S.M. Murigendrappa</p> <p>204. Numerical Simulation of Acoustic Emission Waveforms Generated by Tension and Shear Cracks in RCC beams. Arun Roy , Paresh Mirgal and Dr. Sauvik Banerjee</p> <p>287. Vibration analysis using machine vision system. Jithin T V, Sudheesh Kumar C P, Gopi Krishna N</p>	<p>35. Effect of Length of Vortex Generators on the Overall Performance of a Transonic Axial Compressor Stage. Sreenu G Nath, Shobhavathy M T and R Ajith Kumar</p> <p>52_1 Survey of Available Techniques for High Speed Turbomachinery Testing .N. Sitaram</p> <p>53. An experimental analysis of premixed coaxial isothermal and reacting swirling jet using 2D-PIV method. Deepak Kumar Sahu and Prathap</p> <p>125. Effects of Injector Nozzle Geometry on Diesel Engine Parameters Fuelled with Preheated Pure Biodiesel. Menelik Walle Mekonen, Niranjana Sahoo and Santosh Kumar Hotta</p> <p>131. Effect of air-fuel ratio on the performance and emission characteristic of a biogas fuelled spark ignition engine. S. K. Hotta , N. Sahoo, K. Mohanty and Menelik Walle Mekonen</p> <p>132. Numerical Analysis of Internal Flow Field of a Mixed Flow Compressor Impeller. Taha Y. Poonawala, Samip P. Shah, R. N. Patel, S. A. Channiwala</p> <p>183. Different Gaseous Fuels under Variable Compression Ratio and Spark Location in Spark Ignition Engine: The Comparative Performance Study. Ashish J. Chaudhari, Santosh Hotta , Vinayak Kulkani and Niranjana Sahoo</p>	<p>396. Effect of Body Flap on the Aerodynamics of RLV-TD at Subsonic Mach Number. M Prasath, V R Ganesan and Sarath Saxena</p> <p>404. Lattice Boltzmann computation of natural convection in a square porous cavity with different wall boundary conditions. Dhruvajyoti Kashyap and Anoop K. Dass</p> <p>426. Fluid-structure interaction dynamics of a flexible foil in low Reynolds number flows. Chandan Bose, Sunetra Sarkar and Sayan Gupta</p> <p>431. Generation of wing-tip vortices by flapping rigid plate, optimization of PIV measurements and identification of vortices using various algorithms. Srikanth Goli, Arnab Roy and Subhransu Roy</p> <p>493. CFD investigation of pitch-up in a Transonic regime. Sathish Kumar S, Sailesh Kumar, Sampath Kumar Reddy</p> <p>87. An Experimental Validation of Numerical Post-Stall Aerodynamic Characteristics of a Wing. Vipul Dalela, Aritras Roy and Rinku Mukherjee</p>	<p>115. Time-Optimal Convergence of Fixed-Wing UAVs to a Circular Path in Steady Uniform Wind. Alok Ranjan and Sikha Hota</p> <p>127. A comparative evaluation of actuation methods for telescopic span extension of HALE UAV. Tanvi Prakash , Hemashree Kakar and Rajkumar S. Pant</p> <p>133. Enhanced exploitation of long endurance UAV's electro-optical payload for improved surveillance. Vijay Kumar A, Umang Shukla, Dr PK Dutta and Dr Sikha Hota</p> <p>151. Optimal path planning for fixed-wing UAVs in 3D space. Nikhil Kumar Singh and Sikha Hota</p> <p>154. Coordinate path planning of unmanned aerial vehicles. Kumar Suraj and Sikha Hota</p> <p>226. Differential Evolution for Regular Orbit Determination. Pratik V. Dedhia and R V. Ramanan</p>

Tea Break : 3.30PM – 4.00PM

Main Theme : Contributory Papers

Time: 4.00PM – 5.30 PM

Session: Co5 Venue: Maitrayee Hall Theme: Aerodynamics / CFD	Session Co6 Venue: Gargi Hall Theme: Structures	Session Co7 Venue: Venue 3 (V3) Theme: Structures	Session: Co8 Venue 4 (V4) Theme: Structures
<p>61. Supersonic underexpanded jet impingement over axisymmetric jet deflector Raushan Kumar and Dr. Manoj T Nair</p> <p>65. Investigation of heat transfer from satellite cluster of cylinders at Subcritical Reynolds number S. K. Dhiman, Arbind Kumar and J. K. Prasad</p> <p>71. Miscible Fluids Interaction in Microchannels in Presence of the Obstacles Jitendra Kumar Patel, Ganesh Natarajan</p> <p>75. Transverse-only Vibrations of a Rigid Square Cylinder Subhankar Sen</p> <p>77. Steady flow past two square cylinders in tandem Deepak Kumar, Kumar Sourav and Subhankar Sen</p> <p>79. Supersonic Nozzle Design using method of characteristics Parv Khurana, Saurabh Jindal, Hrishabh Chaudhary, Gurpartap Singh, Keerat Singh and Tushar Siag</p> <p>129. A shock stable and contact preserving convective pressure split Reimann solver for computation of compressible high speed flows Sangeeth Simon & J. C. Mandal</p>	<p>48. Strength and Crack Growth Computation for Various types of Stringers on Stiffened Panels using XFEM Techniques Krishna Lok S., Reshma G. and B. Dattaguru</p> <p>55. Effect of skewness on stochastic natural frequency of sandwich plates Ravi Ranjan Kumar, Vaishali, K. M. Pandey, S. Dey</p> <p>66. Design and Simulation of 3-DoF Strain Gauge Force Transducer using Finite Element Analysis Ankur Jaiswal, H. P Jawale and Kshitij Shrivastava</p> <p>70. Determination of Hardness for Cone Indentation to a Semi-Infinite Block for Various Cone Angles and Friction Parameters by Numerical Slip-Line Field Technique Arup K. Biswas, Santanu Das and Sanjoy Das</p> <p>72. Simplified Theory for Long Underground Cylindrical Storage Tank Abhinanda Dilip, S. Talukdar and Palash Dey</p> <p>78. A Micromechanical study of Fibre-Reinforced Composites with uncertainty quantification and statically equivalent random fibre distribution S Koley, P M Mohite, and C S Upadhyay</p> <p>126 Dynamics of axially functionally graded nonuniform beam with geometric nonlinearity Saurabh Kumar, H. Roy and Anirban Mitra</p>	<p>80. A modified higher order zigzag theory for stress analysis of composite laminates Dhiraj Biswas and Chaitali Ray</p> <p>81. Comparative study of Biocomposite and synthetic FRP composite with experimental verification Moumita Sit and Chaitali Ray</p> <p>85. NURBS-enriched contact isogeometric element for adhesive contact problems Vishal Agrawal and Sachin S. Gautam</p> <p>86. Effect of delamination on stiffened and un-stiffened shell-A comparative study Mrutyunjay Rout and Amit Karmakar</p> <p>88. Energy harvesting from vibration using IPMC taper cantilever beam Satya Narayan Patel and Sujoy Mukherjee</p> <p>96. Numerical implementation of phase transition based constitutive model for 2D and 3D SMP structural elements A.K. Saurav , P.M. Mujumdar and P.J. Guruprasad</p> <p>285. A computational model for VIV induced fatigue damage assessment of marine riser in current dominated locations. C. Pallan and R. Sharma</p>	<p>99. Free vibration analysis of laminated composite plates and shells subjected to concentrated mass at the centre Arpita Mandal , Chaitali Ray and Salil Haldar</p> <p>102. Free vibration analysis of fiber metal laminated plates Prasad E. V. and Sahu, S. K.</p> <p>108. Tapered Viscoelastic RayleighEuler Bernoulli beam finite element for rotor dynamic analysis Preetam Ray, Chandrani Guha, A. Nandi and S.Neogy</p> <p>111. Dynamic analysis of laminated composite plates using Finite Element Method Prithwish Saha. and Kalyan Kumar Mandal</p> <p>113. STABILITY ANALYSIS OF CORRUGATED STRUCTURES FOR MORPHING WINGS TV Raghav and M. Senthil Murugan</p> <p>312. Effect of module on wear reduction in high contact ratio spur gears drive through optimized fillet stress R. Ravivarman, K. Palaniradja, R. Prabhu Sekar</p> <p>313. Effects of boundary conditions and excitation locations on power flow of vibrating beams. Gopi krishna N, Sudheesh Kumar C P, Jithin T V</p>

Cultural Programme: 7.00 PM

December 29, 2017 (Friday)

Technical Program

Theme: KEYNOTE/INVITED TALKS Time: 9.00AM-10.30AM	
Session Ko3 Venue: Maitrayee Hall	Session Ko4 Venue: Gargi Hall
Aeroelastic Instability of Aerospace Structural Elements, Prof. P. K. Datta, Ex-Professor & Head, Department of Aerospace Engineering, IIT Kharagpur	Talk by Prof. T K Ghoshal, Honorary Emeritus Professor, EE Jadavpur University, Kolkata Computational Methods for Uncertainty Quantification in Space Situational Awareness- Dr. Raktim Bhattacharya, Associate Professor, Texas A&M University

Tea Break: 10.30AM-11.00AM

Main Theme : Contributory Papers Time: 11.00AM-1.00PM			
Session: Cog Venue: Maitrayee hall Theme: Aerodynamics/ CFD	Session C10 Venue: Gargi Hall Theme: Structures	Session C11 Venue: Venue 3 (V3) Theme: Structures	Session: C12 Venue 4 (V4) Theme: Propulsion/ Heat Transfer
<p>97. Wind pressure distribution on rectangular plan tall building due to variation in height of interfering buildings. Bharat S. Chauhan and Ashok K. Ahuja</p> <p>106. Instabilities in granular medium due to explosions Nitish Kumar and S. N. Khaderi</p> <p>109. On the order of accuracy analysis of SDWLS method. Sourabh P. Bhat , S. Parameswaran and Jadav C. Mandal</p> <p>128. Shock Train Dominated Confined Supersonic Cavity Flow. Mayank Kumar and Aravind Vaidyanathan</p>	<p>114. Effect of Proof Masses on Composite Piezoelectric Energy Harvester with Variable Mounting Locations. Sachin Vilas Salunke , Sajal Roy and K.R. Jagtap</p> <p>118. HDMR Based Finite Element Model Update in Structural Damage Identification. B.O. Naveen and A.S. Balu</p> <p>119. Finite-element multi-point impact performance of functionally graded turbo-machinery blades. Apurba Das, Mrutyunjay Rout, Amit Karmakar</p> <p>120. Buckling Analysis of Thick Isotropic Shear Deformable Beams. Kedar S. Pakhare, Rameshchandra P. Shimpi and P. J. Guruprasad</p>	<p>146. Dynamic response of stiffened plates subjected to underwater blast loading. P. Tekam and M. D. Goel</p> <p>159. Probabilistic free vibration analysis of Goland wing. Sandeep Kumar, Amit Kumar Onkar , M Manjuprasad</p> <p>160. Effect of graphite particulate on mechanical properties of glass fiber reinforced composite. Antara Bhattacharjee , Kanchan Roy and B. K. Nanda</p> <p>162. First Ply Failure Study of Laminated Composite Conoidal Shells using Geometrically Nonlinear Formulation. Kaustav Bakshi and Dipankar Chakravorty</p>	<p>163. Numerical Analysis of K-type, J-type and E-type Coaxial Thermocouples for Transient Measurement. Digvijaysinh Barad, Sanjeev Kumar Manjhi and Rakesh Kumar</p> <p>172. CFD Modelling of Scramjet Combustor. Saurabh Jindal and Sudarshan Kumar</p> <p>199. Experimental Study of Regression Rate Augmentation using Vortex Generator in a Hybrid Rocket Motor. K. Manikandan, P. Balaraman, S. Sivapriya and L. Charitha</p> <p>155. Modeling of fuel reactor in a chemical looping combustion process by using CFD. Mit Manojbhai Sheth, Arnab Roy and Atal Bihari Harichandan</p>

<p>143. Large-eddy Simulation of Shock Train in Supersonic Diffuser Flows. Susila Mahapatra and Somnath Ghosh</p> <p>156. MMOC: A novel idea for fully expanded flow in supersonic nozzles. Dipen R. Dangi, Parth B. Thaker and Atal B. Harichandan</p> <p>158. IR signature studies of Serpentine nozzle with elliptic exit. A Nageswara Rao, Boomadevi, Shubham, Abhijit Kushari and Gaurav Kunal Jaiswal</p> <p>123. Experimental investigation of evolution of Instabilities in pipe flow. Tushar Siag and Debopam Das</p>	<p>134. Spectral finite element for dynamic analysis of piezoelectric laminated composite beams. Namita Nanda and B. P. Patel</p> <p>136. Determination of interlaminar stress components in a pretwisted composite strip. Santosh B. Salunkhe and P. J. Guruprasad</p> <p>137. A Study on Wrinkling Characteristics of NBR Material. Vaibhav S Pawar, Rajkumar S. Panta and P.J.Guruprasad</p> <p>305. Research Review on Variation in VARTM Experimental Setup Development. Alpa Tapan Bhatt, Piyush P Gohil,, Vijaykumar Chaudhary</p>	<p>168. Fracture Characterization of Composite Using High Dimensional Model Representation Based Cohesive Zone Model. B. Kesava Rao and A. S. Balu</p> <p>173. A Semi-Analytical Adaptive Sparse Surrogate based Approximation Model: Application in Non-Linear Stochastic Dynamics and Vibration Control. Tanmoy Chatterjee and Rajib Chowdhury</p> <p>179. A GPU-based simulation of nonlinear finite element problems. Utpal Kiran and Sachin S. Gautam</p> <p>182. A numerical study on the behaviour of steel beam-concrete slab composite structure. Deepak Kumar and Subhashish Roychowdhury</p>	<p>206. Numerical Study of the Blade Sweep and Lean Effects on an Axial Supersonic Impulse Turbine Flow Field and Performances. Sooin Jeong, Byoungik Choi, Hanggi Lee, Jaye Koo and Kuisoon Kim</p> <p>245. Survey of novel film coolant injector configurations of gas turbine blades. P. S. B. Pratyush and Shine S. R.</p> <p>245_1 3D Numerical Investigation of the Tandem Compressor Cascade with varying Sidewall Gap Distance Chirag Solanki, Shine SR</p> <p>101. Aerodynamic design exploration of compressor cascade for better design Apurva Shukla and Pavan Kotrike</p>
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Lunch Break: 1.00PM-2.00PM

Main Theme : Contributory Papers Time: 2.00PM-3.30PM			
Session: C13 Venue: Maitrayee Hall Theme: Structures	Session C14 Venue: Gargi Hall Theme: Structures	Session C15 Venue: Venue 3 (V3) Theme: Structures	Session: C16 Venue 4 (V4) Theme: Aerodynamics/ CFD
<p>275. Thermo- mechanical bending analysis of skew FGM laminated plates Sanjay Singh Tomar and Mohammad Talha</p> <p>302. Static and Dynamic Characterization of Glass Fiber Reinforced Polypropylene Composite and its Application for Horseshoe A.Gupta, M.Gupta, R.K.Singh, Q.Ansari and S.Ahmed</p> <p>309. Cold Expansion of Elongated Hole: A Realistic Finite Element Simulation S. Anil Kumar and N.C. Mahendra Babu</p> <p>310. Numerical investigation of crushing behavior of conventional and reinforced honeycomb structure against in plane loading Tiju Thomas, Gaurav Tiwari</p>	<p>244. Numerical Simulation of Magnetic Pulse Welding Process for Aluminum tubes to Steel bars S. M. Tak., H. B. Kang. and S.S. Lee</p> <p>247. Applicability of Tricycle Modeling in the Simulation of Aircraft Steering System Sathish S, Suryanarayanan L, Jaidev Vyas J and Balamurugan G</p> <p>260. Nonlinear Analysis of Skew Plates on Winkler Foundation using Element Free Galerkin Method Gaurav Watts, S. Pradyumna and M. K. Singha</p> <p>261. Effect of delamination on vibration characteristic of smart laminated composite plate Ganesh Shankar, Jayant Prakash Varun, P.K.Mahato</p>	<p>145. An Efficient Metamodelling based Robust Design Optimization of Structure under Stochastic Extreme Wind Load Gaurav Datta and Soumya Bhattacharjya</p> <p>200. Numerical Simulation Of Isothermal Crack In Functionally Graded Material In Weak Discontinuity Domain Using Element Free Galerkin Method Sahil Garg , Chandra Shekhar and Mohit Pant</p> <p>211. Modeling of Large Elasto-Plastic Deformations in Bi-material Components by FEM Aditya Kumar Singh, Azher Jameel, G. A. Harmain</p> <p>229. Finite Element Vibration Analysis of Skew Sandwich Plate Dr. Sreyashi Das(nee Pal) and Dr. Arup Guha Niyogi</p>	<p>13. Innovative Techniques of Drag Reduction over Blunt Bodies at varied Angles of Attack in Supersonic Flow Gaurav Kunal Jaiswal and Mrinal Kaushik</p> <p>22. Numerical solution of steady incompressible flow in a lid-driven cavity using alternating direction implicit method Banamali Dalai, Manas Kumar Laha</p> <p>52. Comparison of Single Hole, Two Hole and Four Hole Probes for Three-Dimensional Flow Measurements N. Sitaram, M. Suresh</p> <p>54. Stagnation and Static Property Correlations for Equilibrium Flows Shubham Maurya and Aravind Vaidyanathana</p>

<p>267. Free vibration analysis of functionally graded porous circular arch in thermal environment Mohammad Amir and Mohammad Talha</p> <p>271. Wave Propagation in delaminated thin pretwisted anisotropic strip. Punith P , Guruprasad P J and Mira Mitra</p>	<p>266. Characterization, Micromechanical Analysis and Prediction of Effective Properties of Prepreg Based Discontinuous Composite Vishnu A R, P R Krishna Mohan, and P M Mohite</p> <p>232. Study on Parametric Instability of an Asymmetric Tapered Sandwich Beam Configuration by Computational Method S. Das, M. Pradhan, P.R. Dash</p>	<p>231. Dynamic Stability Analysis of a Parabolic Tapered Rectangular Beam Subjected To Periodic Excitation with Variable Thermal Gradient Pravat K. Behera, Rakesh R. Chand, Madhusmita Pradhan and Pusparaj Dash</p> <p>276. Effect of Geometric Imperfection on the vibration response of shear deformable functionally gradient plate. Ankit Gupta and Mohammad Talha</p>	<p>58. CFD Simulation of Hypersonic Shock Tunnel Nozzle Jigarkumar Sura</p> <p>59. A DNS Study of Bulk Flow Characteristics of a Transient Diabatic Plume that Simulates Cloud Flow Samrat Rao, P. Prasanth, S. M. Deshpande, Roddam Narasimha</p>
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Tea Break: 3.30PM-4.00PM

<p align="center">Main Theme : Contributory Papers Time: 4.00PM-6.00PM</p>			
<p>Session: C17 Venue: Maitrayee Hall Theme: Aerodynamics / CFD</p>	<p>Session C18 Venue: Gargi Hall Theme: Structures</p>	<p>Session C19 Venue: Venue 3 (V3) Theme: Propulsion</p>	<p>Session: C20 Venue 4 (V4) Theme: Structures</p>
<p>166. Analysis of transformed sixth order polynomial curve for the contraction of wind tunnel by using OpenFOAM. Lakshman R and Ranjan Basak</p> <p>180. Micro Particle Image Velocimetry Studies on Flow of Suspensions through Bifurcating Channels. Bhaskar Jyoti Medhi, Vipin Agrawal and Anugrah Singh</p> <p>197. Aerodynamic Design and Numerical Analysis of Transonic Axial Flow Compressor. Jeetendra Kumar Tarannum Mujawar and Dr.S.A.Channiwala</p> <p>219. Actuator modeling for Electro-magneto-hydrodynamic flow control studies. Hari Sankar and Pradeep A.M.</p> <p>233. Wind Fragility Assessment of RC Chimney Considering Temperature Effects. Avinandan Sahoo, Soumya Bhattacharjya and Saibal Kumar Ghosh</p>	<p>273. Global Sensitivity Analysis of Single Lap, Multi-Bolt Composite Joint using Computational Micro Mechanical Approach. Supriya M. Jadhav, Appaso M. Gadade and B. N. Singh</p> <p>314. Mixed mode stress intensity factor of edge crack laminated composite plate in hygrothermal environment using XFEM. Achchhe Lal, Shailesh P. Palekar</p> <p>412. Force estimation on a clamped plate using a deterministic-stochastic approach. Akash Shrivastava and Amiya R. Mohanty</p> <p>418. Doubly coupled vibration and dynamic instability analysis of thin-walled columns. A. Yadav, S. K. Panda and T. Dey</p> <p>419. Failure Analysis of Circular Composite Patch Adhesively Bonded on Damaged Carbon Fiber Reinforced Polymer Panel. V. S. Bhise , S. V. Nimje and S. S. Siddhant</p>	<p>264. Study of the Effect of Heat Flux Position on Thermo-Acoustic Instability boundaries of Rijke tube. Nilaj Deskmukh, Rajdeep Jagdale, Soham Shah Pavan Patil and Pradeep Gite</p> <p>296. Design, fabrication, testing and cost optimization of monopropellant thruster. Salahudden, Inderjeet Singh, A.K.Ghosh</p> <p>360. Effect of particle loading on regression profile, ignition and flame characteristics of boron laden nanofuel droplet. Pawan Kumar Ojha and Srinibas Karmakar</p> <p>365. Combustion Characteristics of Boron-HTPB Based Solid Fuels for Hybrid Rocket Applications. Syed Alay Hashim, Sanket Kangle, Srinibas Karmakar, and Arnab Roy</p> <p>371. CFD analysis of centrifugal pump performance with different impeller geometries. Sai Krishna Y, Jayavel S, Sudhir Varadarajan</p>	<p>282. Dynamic Responses of Bridge and Vehicle for various Vehicle models. Mounika Kunduru and B.N.Rao</p> <p>286. Near resonant beating phenomenon in 2-D nonlinear structural acoustic waveguide. Biswajit Bharat and Venkata R. Sonti</p> <p>292. Crashworthiness performance of Frusta Tube Structures against Eccentric loading .Vivek Patel, Gaurav Tiwari , Ravikumar Dumpala</p> <p>293. On Fatigue Crack Growth in Plastically Compressible Hardening Solids by Crack Tip Blunting. Shushant Singh and Debashis Khan</p> <p>298. Hygro-thermo mechanically- induced fracture analysis of edge crack Piezomagnetic laminated composite plate using DCM. Khushbu Jain, Achchhe Lal</p> <p>299. Characterization of 2D Nanomaterials for Energy Storage. Akarsh Verma and Avinash Parashar</p>

<p>239. Liquid slosh simulation studies. Naveen kumar S, J Jaidev Vyas, Dr G Balamurugan and Dr Rajagopal M S</p> <p>254. Open channel turbulent flow in the presence of surface wave. K. Barman and K. Debnath</p> <p>258. Numerical study on the hydrodynamic performance of S1210 hydrofoil with tube slots Parikshit Kundu, Arunjiyoti Sarkar, Vishwanath Nagaranjan</p>	<p>428. Effect of exposure duration on Flexural strength of self compacting concrete Mr. Mohammad Zuhair and Dr. S. K. Deshmukh</p> <p>432. Damage Detection of Laminated Composite Shells using Unified Particle Swarm Optimization. T. R. Jebieshia, D. K. Maiti, D. Maity</p> <p>433. Dynamic Analysis of Composite Cylinders using 3-D Degenerated Shell Elements Pratik Tiwari, D K Maiti and D Maity</p>	<p>409. Entropy generation analysis of an energy generating plate dissipating heat into its surrounding fluid medium. T.K. Favas and G. Jilani</p> <p>417. Numerical investigation of the evacuation effect in expansion deflection nozzle. Midhun Thomas, M.R. Rajkumar and G. Venugopal</p> <p>420. Novel Solar Energy Electrical Generator. Vineeth N. V Ram Kiran. and Dr. Suresh Kumar Rajana.</p>	<p>104. Response Surface Method for Structural Analysis with Imprecise Uncertainties S K. Spoorthi and A S. Balu</p> <p>484. Comparison of Heat Source Models in FEM - based Analysis of Electron Beam Melting of Steel Plate Debasish Das, Dilip Kumar Pratihar and Gour Gopal Roy</p>
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December 30, 2017 (Saturday)

Technical Program

Main Theme: Contributory Papers

Time: 9:00 AM - 10:30 AM

<p>Session: C21 Venue: Maitrayee Hall Theme: Aerodynamics / Fluid Dynamics / CFD</p>	<p>Session C22 Venue: Gargi Hall Theme: Structures</p>	<p>Session C23 Venue: Venue 3 (V3) Theme: Structures</p>	<p>Session: C24 Venue 4 (V4) Theme: Computational and Experimental Mechanics</p>
<p>246. POD Analysis of Flow Past Two Circular Cylinders in Tandem Arrangement Balavignesh V. N, Supradeepan K. and Arnab Roy</p> <p>248. Characterisation of flow structures for a surface interacting plane turbulent jet Sayahnya Roy, Kumar Pushpak, Koustuv Debnath</p> <p>277. Temporal Flow Characteristics of High-Frequency Supersonic Actuators Integrated in REM-Nozzle Assembly John T. Solomon, David Alexander, Chitra R. Nayak, Jarvis Howard, and Leavon Lewis, Phil Kreth</p> <p>289. Numerical Investigation of Flow Through A Rotating, Annular, Variable-area Duct Palak Saini, Sagar Saroha, Shrish Shukla, Sawan S. Sinha</p>	<p>434. A new hybrid unified particle swarm optimization technique for damage assessment from changes of vibration responses S. K. Barman, D. K. Maiti and D. Maity</p> <p>459. Semi-active Control of a Three Storey Building Structure P. Chaudhuri, D. Maity and D. K. Maiti</p> <p>470. Nonlinear Vibration of Pre and Post Buckled Composite Shells under Hygro-thermal Environment C. K. Kundu</p> <p>477. Design of Powered Ankle Prosthesis for Replicating Natural Gait Cycle of Human Locomotion Saikat Sahoo, D. K. Pratihar and S. Mukhopadhyay</p>	<p>486. A Detail Study on Hysteretic Systems Using The Application of Force And Base Excitation Sumit Saha, Tanvir Sohail and Jafar Sadak Ali</p> <p>512. High-strain rate tensile and compressive characterization of graphite platelet reinforced vinyl ester nanocomposites B. Pramanik, P. R. Mantena and A. M. Rajendran</p> <p>483. A Direction-Based Exponential Crossover Operator for Real-Coded Genetic Algorithm Amit Kumar Das and Dilip Kumar Pratihar</p> <p>520. Numerical and non-destructive studies of secondary bonded composite T – joints. Ramesh Kumar, Anup Ghosh, Sakthi Sathya, Karuppannan</p>	<p>17. Experimental Dynamic Response Analysis of Delaminated FRP composite Beams I. Panigrahi and B.M. Hembram</p> <p>21. Performance Evaluation of Jigsaw Machine with Kinematic and Stress Analysis Viraj Mehta, Vimal Patel</p> <p>33. Multi-scale simulation of elastic waves containing higher harmonics Ambuj Sharma, Sandeep Kumar, and Amit Tyagi</p> <p>50. A phenomenological model for hyper-elastic material under deformation Deepak Kumar, Md Moonim Lateefi, Somnath Sarangi</p> <p>60. Laser spallation: A novel technique to evaluate thin film interface strength Sarthak S. Singh and R. Kitey</p>

<p>301. Computational analysis of heat transfer enhancement in circular pipe using vortex generators Prabhakar Pandey and Dr. Vivek Kumar Patel</p> <p>311. Development of M-DSMC Numerical Algorithm for Hypersonic Flows Malaikannan G, Rakesh Kumar</p>	<p>478. Kinematic Analysis of Legged Mobile Manipulator Kondalarao Bhavanibhatla and Dilip Kumar Pratihari</p> <p>14. Finite element approach for a parametric study on vibration response of a functionally graded shaft using temperature dependent material properties Debabrata Gayen, Debabrata Chakraborty and Rajiv Tiwari</p>	<p>401. Structural & vibration analysis of high aspect ratio low speed contra-rotating fan stage. Supen Kumar Sah, Anup Ghosh, Chetan S. Mistry</p> <p>28. Static analysis of composite boring bar using FEA B. A. G. Yuvaraju and B. K. Nanda</p>	<p>141. Obtaining exact modal parameters by removing effects of probe and exciter using experimental modal analysis Priyanka Datta, A. Nandi, and S. Neogy</p>
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Tea Break: 10.30 AM - 11.00AM

Main Theme : Contributory Papers Time: 11.00AM-1.00PM			
Session: C25 Venue: Maitrayee Hall Theme: Aerodynamics/CFD	Session C26 Venue: Gargi Hall Theme: Experimental Mechanics and Heat Transfer	Session C27 Venue: Venue 3 (V3) Theme: Flight Mechanics and Control	Session: C28 Venue 4 (V4) Theme: Structures
<p>315. Computational Fluid Dynamic (CFD) analysis of using a SiC based nanofluid as an automotive radiator coolant. Sooraj, Sukirt</p> <p>345. Computational Study of airflow interactions and drag reduction techniques in vehicle platoons. Mitali Mangesh Jadhav, Suhani Sanjay Patel, Dhruvin V Shah and Arpit N Patel</p> <p>348. Effect of eccentricity on stochastic dynamic characteristics of hydrodynamic journal bearing. Surajit Das, Biswajit Roy and S.Dey</p> <p>349. A note on dynamic initialization of numerical model for plankton dynamics in Sundarbans Estuarine Systems, India. Tanaya Das, Sharanya Chakraborti, Joydeep Mukherjee, Goutam Kumar Sen</p> <p>368. Effect of amplitude and oscillation frequency on flow periodicity of pitching airfoil. Arpan Das and Shaligram Tiwari</p>	<p>157. Stagnation Point Transient Heat Flux Measurement, Analysis from K-type, E-type and J-type Coaxial Thermocouples. Sanjeev Kumar Manjhi and Rakesh Kumar</p> <p>212. Hand Held FFT Analyser. Tuhin Bandopadhyay, Shashank Gandhi, N. K. Peyada, A. Ghosh</p> <p>269. Experimental Modal Analysis of a Cantilevered Laminated Composite Plate. Mahesh Chand Gupta, Durga P. Patra, Chandra S. Verma, S. Kumar and P.K. Mahato</p> <p>366. Study on freeze drying of water and milk in a spherical shell. Srinivasan G and Raja B</p> <p>405. Study and experimental investigation of flow and flexural properties of natural fiber reinforced self compacting concrete. Pratyush Kumar and Rahul Roy</p>	<p>228. Optimal Design Technique and Economical Assessment of Stand-Alone Small-Scale HAWT for Indian Scenario. Umesh Chaudhary, P. Tripathy and S. K. Nayak</p> <p>252. Quasi Steady Stall Modelling of Aircraft Using Least-Square Method. Hari Om Verma and N. K. Peyada</p> <p>291. State estimation using filtering methods applied for Aircraft landing maneuver. P.S.Suresh, Niranjan K.Sura and K.Shankar</p> <p>296_1 Design of automatic pitch controller for hansa-3 aircraft to account for small perturbation. Salahudden, Inderjeet Singh, Dr. A.K.Ghosh</p> <p>303. Aerodynamic Parameter Estimation using LASSO Regression Method from Flight Data. Ajit Kumar and Ajoy Kanti Ghosh</p> <p>362. Obstacle Avoidance for Unmanned Air Vehicles Using Monocular SLAM with Chain Based Path Planning in GPS Denied Environments. Bharadwaja Yathirajam, Vaitheeswaran S. M and Ananda C.</p>	<p>34. Stochastic frequency response function analysis of functionally graded plates Pradeep Kumar Karsh, Sudip Dey</p> <p>36. Active Nonlinear Vibration Absorber for a Nonlinear System with Time Delay Acceleration Feedback for Simultaneous 3:1 Internal Resonance, Subharmonic, Superharmonic and Principal Parametric Resonance Condition S Mohanty and S K Dwivedy</p> <p>40. Numerical prediction of residual stresses and distortions in GMA welding of thin aluminium alloys Tapas Bajpai, H. Chelladurai and M. Zahid Ansari</p> <p>42. Bending and Free Vibration Analysis of Carbon Nanotube Reinforced Composite Spur Gear (CNTRCG) Using Finite Element Method Nagaraj Kantli and Shrivankumar B. Kerur</p> <p>117. Non-polynomial zigzag theory for the static and buckling analysis of laminated composite and sandwich plates. Rosalin Sahoo, B. N. Singh, Neeraj Groover</p>

369. Numerical and Experimental Study of Sublimation Dehydration of Water. Srinivasan G, Muneeshwaran M and Raja B	487. Experimental and Numerical study of Magnetorheological damper using Bouc-Wen mode. Tanvir Sohail, Sumit Saha and Jafar Sadak Ali	423. Underwater Time Delay Estimation with Maximum Length Sequence Signals and Rayleigh underwater modeling. Marxim Rahula Bharathi B and A R Mohanty	44. Diffusion induced stress in a cylindrical particle binder system Gaurav Singh and Tanmay K Bhandakkar
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Lunch Break: 1.00PM-2.00PM

Valedictory Function: 2:30 PM – 3:30 PM