

SESSION SCHEDULE: SMETB 2017	
DAY 1 25th MARCH, 2017	
8:30 A.M. to 9:30 A.M.	Registration
9:30 A.M. to 10:25 A.M	Inauguration of the conference by Prof. Gautam Biswas, Director, IIT Guwahati. Venue: Dean's Gallery, SoE
10:45 A.M. to 11:25 A.M	Plenary Talk I
Speaker: Prof. Sarit K. Das Director, IIT Ropar Title of the talk: Augmented thermophysical and electromagnetic transport properties of graphene nanosuspensions. Venue: Dean's Gallery, SoE	
Technical Session I: MATERIAL SCIENCE Venue: Smart Classroom, Dean's Building, SoE. Time: 11:30 A.M. to 1:00 PM Session Chair: CVS Murthy, Director, Advanced Materials and Processes DRDL, Hyderabad. Session co-chair: Dr. S. Banerjee Student coordinators: Pooja Dutta Debasish Sharma	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-07	Wear behaviour of glass/jute hybrid epoxy composites with addition of saw dust and fish scale powder fillers <i>Pranjal Borah, Sutanu Samanta</i>
SMETB-33	Dry sliding wear behaviour of micro-alloyed Al-Cu alloys <i>Sanjib Banerjee, Nabanita Das</i>
SMETB-20	Study on the tensile properties of lime sludge filled coir fibre reinforced epoxy composites <i>Jahidul Islam, Satadru Kashyap</i>
SMETB-40	Determining peak-aging time during precipitation hardening of aluminium alloys <i>Sanjib Banerjee, Sanjib Gogoi</i>
SMETB-34	Investigating cutting force during facing of micro-alloyed Al-Cu alloys <i>Sanjib Banerjee, Indrani Mazumder</i>
SMETB-48	Comparative analysis of S/N ratios for the machined surfaces of pure Mg and Mg/Y2O3 nano composite <i>Tanmoy Banik, Sahachar R. Tipanna, Sanjib Gogoi</i>
Technical Session II: INDUSTRIAL ENGINEERING Venue: Seminar Hall, Department of Mechanical Engineering. Time: 11:30 A.M. to 1:00 PM Session Chair: Prof. Shyamanta M. Hazarika Department of Computer Science and Engineering	

<p style="text-align: center;">Tezpur University Session co-chair: Er. Satadru Kashyap Student coordinators: Sidharth Sarmah Kalyani Kaushik</p>	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-36	Development of in-line processing machinery for manufacture of multiple Indian traditional dairy products <i>I.K. Sawhney, P.S. Minz</i>
SMETB-50	Analysis of manufacturing defects using FMEA– A step towards defect prevention <i>B Chowdhury, SK Deb</i>
SMETB-25	Linear programming model for refinery profit optimization <i>Debashish Ranjan Nath, Pranjal Jyoti Dutta, Parimal Bakul Barua</i>
SMETB-30	Use of lean manufacturing for minimisation of waste in a tea processing plant – A feasibility study <i>Kangkan Kishore Nath, Barnali Chowdhury</i>
<p>2:00 P.M.–2:30 P.M Keynote Talk I</p>	
<p>Speaker: CVS Murthy Director, Advanced Materials and Processes DRDL, Hyderabad Title of the Talk: Manufacturing challenges in aerospace engineering and special fabrication processes Venue: Seminar Hall, Department of Mechanical Engineering</p>	
<p>Technical Session III: MANUFACTURING ENGINEERING Venue: Seminar Hall, Department of Mechanical Engineering. Time: 2:35 P.M. to 3:45 PM Session Chair: CVS Murthy, Director, Advanced Materials and Processes DRDL, Hyderabad. Session co-chair: Dr. S. M. Kamal Student coordinators: Sanjib Gogoi Nabanita Das</p>	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-06	Comparative studies on mineral oil, eco-friendly bio-cutting fluids treatment and their machining performance <i>Kishor Kumar Gajrani, Subrat Kumar Mallick, Mamilla Ravi Sankar</i>
SMETB-42	FEM simulation of laser bending for D-36 ship building steel <i>Saswat Rajowar, Polash Pratim Dutta</i>
SMETB-18	Development of a setup for TIG welding of pipes <i>Sujoy Tikader, U. S. Dixit</i>
SMETB-17	Towards optimal soil cutting process using a multi-objective genetic algorithm <i>Nada Barakat, Deepak Sharma</i>
SMETB-59	Cutting fluid emissions and eco-friendly cutting fluid for sustainable machining <i>Mamilla Ravi Sankar, Kishor Kumar Gajrani</i>
<p>2:00 P.M.–2:30 P.M Keynote Talk II</p>	
<p>Speaker: Prof. Sashindra K. Kakoty Department of Mechanical Engineering</p>	

IIT Guwahati Title of the Talk: A compilation on tribological means for energy conservation Venue: Smart Classroom, Dean's Building, SoE	
Technical Session IV: SOLID MECHANICS AND DESIGN -I Venue: Smart Classroom, Dean's Building, SoE Time: 2:35 P.M. to 3:45 PM Session Chair: Prof. Sashindra K. Kakoty, IIT Guwahati Session co-chair: Prof. D. Datta Student coordinators: Indrani Mazumder Kangkan Kishore Nath	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-01	Crack detection and localisation in shaft system using wavelet transform analysis. <i>Deepak Kumar Gupta, Vertika Bhushan</i>
SMETB-52	Comparison between square and hexagonal representative volume elements for evaluating elastic properties of CNT-reinforced composites. <i>Bichitra Narayan Gohain, Sushen Kirtania</i>
SMETB-45	Effect of lateral loading on the response of bucket foundation supporting offshore wind turbine in sandy seabed <i>Tanmoy Kumar Deb, Baleshwar Singh</i>
SMETB-31	Designing of an alternate pedalling mechanism <i>Udit Arunav, Bitopan Deka, Manash Pratim Das, Zahnpriya Kalita</i>
SMETB-47	Fabrication and vibration analysis of shaft of a pedal powered washing machine <i>Narayan Das, Sanjana Talukdar, Debangshu Sinha, Sumit Patni, Gaurav Kumar, Bhupendra K. Meena, Polash P. Dutta, Sushen Kirtania</i>
SMETB-26	Designing of a manual paddy transplanting machine <i>Syed Asfak Alam, Jitul Nath, Kumarika Gohain, Partha Pratim Dutta</i>
4:00 P.M.–4:30 P.M Keynote Talk III	
Speaker: Prof. Rahul D. Misra Department of Mechanical Engineering NIT Silchar Title of the Talk: Comfort indices for human comfort– an overview Venue: Seminar Hall, Department of Mechanical Engineering	
Technical Session V: IC ENGINE , ALTERNATIVE FUEL AND BIOENERGY Venue: Seminar Hall, Department of Mechanical Engineering. Time: 4:35 P.M. to 6:35 PM Session Chair: Prof. Rahul D. Misra, NIT Silchar Session co-chair: Dr. Partha P. Dutta Student coordinators: Bichitra N. Gohain Indrani Mazumder	

Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-21	Effect of biogas flow rate and intake charge preheating in dual fuel diesel engines <i>Achinta Sarkar, Ujjwal K. Saha</i>
SMETB-27	Production and analysis of biochar from Areca tree fibre <i>M. Bardalai, D. K. Mahanta</i>
SMETB-05	Improving fuel economy and NOx emission of diesel engine through preheating and exhaust gas recirculation <i>Menelik Walle Mekonen, Niranjana Sahoo, Santosh Hotta</i>
SMETB-16	Co-pyrolysis study of sawdust and coal blends using thermogravimetric analysis <i>Debarshi Mallick, Gunendra Yadav, Pinakeswar Mahanta</i>
SMETB-43	Characterization of biodiesels and performance analysis of a diesel engine run on biodiesel blends <i>Jyotirmoy Kakati, Tapan Kumar Gogoi</i>
SMETB-10	Study of thermal behaviour and evaluation of kinetic parameters of biomass <i>Nabadeep Saikia, Monoj Bardalai</i>
SMETB-23	Production of ethanol from water hyacinth (<i>Eichhornia Crassipes</i>) <i>Bijit Nandan Sharma, Dilip Kr. Bora, Babul Saikia</i>
4:00 P.M.–4:30 P.M. Keynote Talk IV	
Speaker: Prof. Prabal Talukdar Department of Mechanical Engineering IIT Delhi Title of the Talk: Heat transfer through thermal protective fabric– A few critical insight Venue: Smart Classroom, Dean's Building, SoE	
Technical Session VI: FLUID FLOW, HEAT TRANSFER, CFD AND APPLICATION Venue: Smart Classroom, Deans Building, SoE Time: 4:35 P.M. to 6:35 PM Session Chair: Prof. P. Talukdar, IIT Delhi Session co-chair: Er. Parag M. Kalita Student coordinators: Nabanita Das Saswat Rajowar	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-13	Natural convection driven condensation inside a vertical channel - A numerical study <i>Dipanka Bhuyan, Prof. Asis Giri, Prof. Pradip Lingfa</i>
SMETB-55	Role of intracranial aneurysm size on the hemodynamics: A computational investigation <i>Mantulal Basumatar, Ganesh Natarajan, Subhash C Mishra</i>
SMETB-51	Thermal performance of tapered microchannel heat sink using Al ₂ O ₃ /water nanofluid <i>Manash Protim Boruah, Tapan Kr. Gogoi</i>
SMETB-32	Finite volume-based computation of viscous interactions in compressible flows <i>Dhrijit K. Deka, Paragmoni Kalita</i>
SMETB-44	Study of flow behavior of natural convection for different Prandtl number using Lattice Boltzmann method <i>Shikha Bhuyan, Dipankar Narayan Basu</i>
SMETB-02	Performance investigation on sustainable screw turbine using computational fluid dynamics for micro and pico-hydro applications <i>Mohit Deshmukh, Daseswara Rao Yendluri, K. Ram Chandramurthy, R. Parameshwaran</i>
SMETB-53	Effect of geometry groove on flow and heat transfer in corrugated channel <i>Debasish Sharma, Partha Pratim Dutta</i>

SMETB-58	Computational analysis to assess the influence of rotor radius on dynamic torque characteristics of a small-scale HAWT <i>Umesh Chaudhary, Praveen Tripathy, Sisir Kumar Nayak</i>
SMETB-14	Effects of geometric parameters on heat transfer from a shrouded vertical plate fin array <i>Kankan Kishore Pathak, Asis Giri, Pradip Lingfa</i>
SMETB-39	A low diffusion flux splitting method applied for the computation of inviscid compressible flows <i>Sidharth Sarmah, Subal Sagar, Shuvam Das Choudhury, Paragmoni Kalita</i>
DAY 2 26th MARCH, 2017	
9:30 A. M.–10:15 A.M. Plenary Talk II	
Speaker: Prof. Uday S. Dixit Department of Mechanical Engineering IIT Guwahati Title of the Talk: Achieving the goal of sustainability through modelling of manufacturing processes Venue: Dean's Gallery, SoE	
10:30 A. M.–11:00 A.M. Keynote Talk V	
Speaker: Dr. M. Ravi Sankar Department of Mechanical Engineering IIT Guwahati Title of the Talk: Sustainable machining: cutting fluid emissions and eco-friendly cutting fluid Venue: Smart Classroom, Dean's Building, SoE	
Technical Session VII: SOLID MECHANICS AND DESIGN -II Venue: Smart Classroom, Deans Building, SoE. Time: 11:05 A.M. to 12:15 P.M. Session Chair: Dr. M. Ravi Sankar IIT Guwahati Session co-chair: Dr. Sushen Kirtania Student coordinators: Subal Sagar Farooq Ansari	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-03	Analysis of experimental results of ring compression and flat rolling based on asperity based friction model <i>U.S. Dixit, V. Yadav, P.M. Pandey, A. Roy, V.V. Silberschmidt</i>
SMETB-41	Representative volume element based finite element modeling of carbon nanotube (CNT)-reinforced composites with a broken CNT <i>Sushen Kirtania, Debabrata Chakraborty</i>
SMETB-09	Stress-strain behavior of materials used in a building wall system made of AAC blocks <i>A. Raj, S. Barman, A. Ch. Borsaikia, U. S. Dixit</i>
SMETB-38	An artificial knee joint: Two preliminary designs <i>Chiranjib Baruah, Tanmoy Kishore, Paragmoni Kalita, Nayan M. Kakoty</i>
SMETB-54	An analytical study of rotational autofrettage of thick-walled disks

	<i>S. M. Kamal</i>
10:30 A. M.–11: 00 A.M.	Keynote Talk VI
Speaker: Dr. R. R. Sonde Chief Technology Officer & Executive Vice President, Research Technology and Innovation Thermax Limited, India Title of the Talk: Sustainability on the back of disruptive developments in technology Venue: Dean's Gallery, SoE	
Technical Session VIII: THERMODYNAMIC MODELLING AND ANALYSIS Venue: Dean's Gallery, SoE Time: 11:05 A.M. to 12:15 P.M. Session Chair: Prof. U. S. Dixit, IIT Guwahati Session co-chair: Prof. T.K. Gogoi Student coordinators: Dimbalita Deka Dhrijit Kumar Deka	
Paper ID	NAME OF THE PAPER AND AUTHORS
SMETB-04	Energetic and exergetic analysis of bent tube solar collector <i>Dawit Gudeta, Pinakeswar Mahanta, P.S Robi</i>
SMETB-49	Exergy based parametric analysis of a water-LiCl vapour absorption refrigeration system <i>Dwipen Konwar, Tapan Kr. Gogoi</i>
SMETB-46	Performance of a transcritical CO ₂ system operating under varying ambient conditions <i>Mihir Mouchum Hazarika, Maddali Ramgopa, Souvik Bhattacharyya</i>
SMETB-57	Exergy analysis of a reheat regeneration vapour power cycle with a number of feed water heaters <i>Arunabh Bora, Mriganka Saikia, Saurabh Anand, Tapan Kr. Gogoi</i>
SMETB-12	Performance of a combined power and cooling system with vapour compression and absorption refrigeration system as bottoming cycle: a comparative study <i>Kamaljyoti Talukdar, Tapan Kr. Gogoi</i>
2:00 P.M.	Valedictory Session