



# 6th International and 21st National Conference on Machines and Mechanisms

(iNaCoMM 2023)



**MECHANICAL ENGINEERING DEPARTMENT - NATIONAL INSTITUTE OF TECHNOLOGY, RAIPUR**  
**07-09 December 2023**

## SCHEDULE - iNaCoMM 2023

**7<sup>th</sup> December, 2023; 08:45 AM – 09:30 AM**

**Spot Registration for Participants**

**7<sup>th</sup> December, 2023; 09:30 AM – 10:30 AM**

**Session: Inauguration Ceremony**

**7<sup>th</sup> December, 2023; 10:30 AM – 11:00 AM**

**Tea Break**

**7<sup>th</sup> December, 2023; 11:00 AM – 12:00 Noon**

**Prof. B. M. Belgaumkar Memorial Lecture-1 by Dr. P. M. Pathak (Professor, IIT Roorkee, India)**

**7<sup>th</sup> December, 2023; 12:00 Noon – 02:00 PM, Paper Presentation (Parallel Sessions)**

<b>Session: Machines and Mechanisms-I</b> <b>Session Chair: Dr. R. Chittawadigi and</b> <b>Dr. R. S. Kumar</b>		<b>Session Date &amp; Time: 07/12/2023; 12.00 Noon – 02:00 PM</b> <b>Venue 01: Dr. M. Visvesvaraya Hall (E-Hall)</b>	
12:00 Noon – 12:20 PM	<b>Design of synchronous reluctance motor for e-rickshaw application</b> Paper ID-02, Kalyan, Dhiman		
12:20 PM – 12:40 PM	<b>Design and analysis of vehicle active suspension system</b> Paper ID-08, Mandal, Srinivas		
12:40 PM – 01:00 PM	<b>Artificial neural network-based model for galloping based piezoelectric energy harvester</b> Paper ID-16, Rakesha Chandra Dash		
01:00 PM – 01:20 PM	<b>Design of active suspension system for an electric car using PID and LQR Controllers</b> Paper ID-18, Khaparde, Krishnapillai, Shakya		
01:20 PM – 01:40 PM	<b>A review on extensions of Bennett linkages and the simulation of the linkages in MSC ADAMS</b> Paper ID-20, Rajendra Naik, R Deepak		
01:40 PM – 02:00 PM	<b>Kinematic and dynamic manipulability of the rotary double pendulum</b> Paper ID-77, Deka, Reddy		

<b>Session: Robotics-I</b> <b>Session Chair: Dr. P. M. Pathak and</b> <b>Dr. S. Sanayal</b>		<b>Session Date &amp; Time: 07/12/2023; 12.00 Noon – 02:00 PM</b> <b>Venue 02: Dr. Vikram Sarabhai Hall(D-2)</b>	
12:00 Noon – 12:20 PM	<b>Effective human-robot interaction through motion retargeting approach</b> Paper ID-10, Tripathi, Bhagsara, Gopaliya, Sadhukhan		
12:20 PM – 12:40 PM	<b>Design and analysis of twin-motor anthropomorphic legged robot mechanism under various locomotion</b> Paper ID-19, Gothandaraman, Sivarajan, Rengaraj		
12:40 PM – 01:00 PM	<b>Design of bevel rolling contact joint for transmission mechanism in robotics</b> Paper ID-110, Mehran Sultan Wani and P.V. Manivannan		

01.00 PM – 01.20 PM	<b>Investigating backpropagation neural networks for joint torque prediction during walking: a gait analysis study</b> Paper ID-34, Narayan, Pandey, Trivedi, Dwivedy
01.20 PM – 01.40 PM	<b>Upper-limb exoskeleton robot design driven by a pneumatic artificial muscle actuator</b> Paper ID-36, Punjabi, Jain, Bisen, Kumari, Meel, Kumar
01.40 PM – 02.00 PM	<b>Modelling and simulation of 3-D printed concrete layers and validation using gantry robotic printer</b> Paper ID-40, Sahai, Bisht, Kumar, Singh, Panigrahi

<b>Session: Materials and Machine Design-I</b>		<b>Session Date &amp; Time: 07/12/2023; 12.00 Noon – 02:00 PM</b>	
<b>Session Chair: Dr. Shubhankar Bhowmick</b>		<b>Venue 03: Dr. Homi Jehangir Bhabha (PPT Hall/CDC)</b>	
12:00 Noon – 12:20 PM	<b>Stress analysis of rotating functionally graded cylindrical pressure vessels of variable thickness</b> Paper ID-03, Kumar Singh, Sondhi, Thawait, Kumar Sahu, Madan, Bhowmick		
12:20 PM – 12:40 PM	<b>Solidly mounted BAW Resonator using KNbO<sub>3</sub> thin film for 5g application</b> Paper ID-04, Joshi, Quazi		
12:40 PM – 01:00 PM	<b>Investigating stress and deformation behavior of functionally graded cylindrical shells under external pressure</b> Paper ID-05, Sondhi, Thawait, Yadav, Madan, Bhowmick		
01.00 PM – 01.20 PM	<b>Study of tribological properties of molybdenum graphite filled PTFE composites using statistical tools</b> Paper ID-06, Deepthi, Eswar, Pavan, Sahu, Tanuja		
01.20 PM – 01.40 PM	<b>Influence of texture geometry in the steady state performance of dimple textured journal bearings under the effect of lubricant inertia</b> Paper ID-07, Das, Kakoty		
01.40 PM – 02.00 PM	<b>Effect of material inhomogeneity on thermo-elastic behaviour of functionally graded hollow cylinders</b> Paper ID-13, Gayen, Mitra, Das		

**7<sup>th</sup> December, 2023; 02:00 PM – 03:00 PM**

**Lunch**

**7<sup>th</sup> December, 2023; 03:00 PM – 04:15 PM**

**Plenary Talk-1 + Industry Presentation-1**

**7<sup>th</sup> December, 2023; 04:15 PM – 04:30 PM**

**Tea Break**

**7<sup>th</sup> December, 2023; 04:30 PM – 06:30 PM, Paper Presentation (Parallel Sessions)**

<b>Session: Machines and Mechanisms-II</b>		<b>Session Date &amp; Time: 07/12/2023; 04:30 PM – 06:30 PM</b>	
<b>Session Chair: Dr. G. K. Ananthasuresh and Dr. N. V. S. Naidu</b>		<b>Venue 01: Dr. M. Visvesvaraya Hall (E-Hall)</b>	
04:30 PM – 04:50 PM	<b>Strategic control of a hydraulic drive system with accumulator to enhance energy efficiency</b> Paper ID-23, Kumar, Ghoshal, Das		
04:50 PM – 05:10 PM	<b>Determination of knee and ankle trajectories and synthesis of four-bar linkage for rehabilitation</b> Paper ID-24, Gurpreet Singh, Himanshu Chaudhary and Ramanpreet Singh		
05:10 PM – 05:30 PM	<b>Optimal kinematic design of a robotic lizard using four-bar and five-bar mechanisms</b> Paper ID-26, Rajashekhar V S, Debasish Ghose and Arockia Selvakumar Arockia Doss		
05:30 PM – 05:50 PM	<b>Optimizing ultrasonic welding: the impact of AI and IIoT on the manufacturing industry</b>		



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**07-09 December 2023**

	Paper ID-28, Bose, Ponappa, Chelladurai
05:50 PM – 06:10 PM	<b>Kinematic and experimental analysis of a six-wheel rover on uneven terrain</b> Paper ID-14, Rajana, Sahu, Dutta
06:10 PM – 06:30 PM	<b>Investigation of handling behaviour of tire using neural networks</b> Paper ID-30, Suyash Patil, Shrikant. B. Patil

<b>Session: Robotics-II</b> <b>Session Chair: Dr. S. Sanayal</b>		<b>Session Date &amp; Time: 07/12/2023; 04:30 PM – 06:30 PM</b> <b>Venue 02: Dr. Vikram Sarabhai Hall(D-2)</b>	
04:30 PM – 04:50 PM	<b>Task capability improvement of collaborative manipulators</b> Paper ID-43, Patra, Sinha, Guha		
04:50 PM – 05:10 PM	<b>Design, kinematics, dynamics and workspace analysis of a robot attached to a cot for scanning</b> Paper ID-54, Abhinav Akash and Sudheer A.		
05:10 PM – 05:30 PM	<b>An adaptive soft robotic gripper development for grasping fragile and soft touch objects</b> Paper ID-56, Prajapati, Appala		
05:30 PM – 05:50 PM	<b>Pose detection based real time control of robotic manipulator for remote locations</b> Paper ID-58, Patel, Bamoriya, Chowdhary, Kumar		
05:50 PM – 06:10 PM	<b>Workspace analysis of cable-driven parallel robots for improved productivity in 3D printing</b> Paper ID-59, Keval S. Ramani		
06:10 PM – 06:30 PM	<b>Development of a multi-sensor automatically guided vehicle with obstacle detection and object-following capabilities</b> Paper ID-66, Palli, Shanmuganathan		

<b>Session: Vibration and Control-I</b> <b>Session Chair: Dr. Anshul Faye and Dr. Shubhankar Bhowmick</b>		<b>Session Date &amp; Time: 07/12/2023; 04:30 PM – 06:30 PM</b> <b>Venue 03: Dr. Homi Jehangir Bhabha (PPT Hall/CDC)</b>	
04:30 PM – 04:50 PM	<b>Simulink-based comparative study and selection of a controller for a waist assistive exoskeleton</b> Paper ID-17, Thomas, Kumar, Sahoo, Mohan		
04:50 PM – 05:10 PM	<b>Elastic wave attenuation of metamaterial box beam with hybrid resonators</b> Paper ID-29, Sunny, Murugan		
05:10 PM – 05:30 PM	<b>Gearbox fault diagnosis through time synchronous averaging of vibration signature</b> Paper ID-38, Jain, Saxena, Agarwal, Chouksey, Patel		
05:30 PM – 05:50 PM	<b>Assessment of tooth wear in a profile modified spur geared system using vibration signal analysis</b> Paper ID-39, Mishra, Alam, Panda		
05:50 PM – 06:10 PM	<b>Chatter detection in a tapered workpiece during turning process using acoustic signals</b> Paper ID-60, Sharma, Gupta		
06:10 PM – 06:30 PM	<b>Morphing induced dynamics of two stage coupled telescopic beam</b> Paper ID-, Singha, Murugan		

**8<sup>th</sup> December, 2023; 09:00 AM – 09:30 AM**

Spot Registration for Participants

**8<sup>th</sup> December, 2023; 09:30 AM – 10:45 AM**

Plenary Talk-2 (Dr. Sujatha Srinivasan, Professor, IIT Madras) + Industry Presentation-2

**8<sup>th</sup> December, 2023; 10:45 AM – 11:00 AM**

Tea Break

**8<sup>th</sup> December, 2023; 11:00 AM – 01:00 PM, Paper Presentation (Parallel Sessions)**

<b>Session: Machines and Mechanisms-III</b> <b>Session Chair: Dr. Vijay Kumar Gupta and Dr. N. K. Jain</b>		<b>Session Date &amp; Time: 08/12/2023; 11.00 AM – 01:00 PM</b> <b>Venue 01: Dr. M. Visvesvaraya Hall (E-Hall)</b>
11:00 AM – 11:20 AM	<b>Effect of RCM deviation on the transmission design of a double-parallelogram based RCM mechanism</b> Paper ID-42, Singh, Khatait	
11:20 AM – 11:40 AM	<b>Estimation of insertion force for assembly of rigid body through multiple guides</b> Paper ID-45, Patri, Sreedhar	
11:40 AM – 12:00 Noon	<b>Design and development of an anti-lowering device for the absorber rod drive mechanism of a fast breeder reactor</b> Paper ID-46, Patri, Kaushal, Sreedhar	
12.00 Noon – 12.20 PM	<b>Development of graphical user interface (GUI) for Recursive Dynamics Simulator (ReDySim) for legged systems</b> Paper ID-51, Gupta, Dan, Chaudhary, Saha, Shah	
12.20 PM – 12.40 PM	<b>The detection of isomorphism and inversions of kinematic chains using an evolutionary approach</b> Paper ID-52, Dewangan, Prajapati	
12.40 PM – 01.00 PM	<b>Productivity improvement on fabrication line of baler at CHNi, pune</b> Paper ID-67, Bhendarkar, Satputaley, Madankar, Hajare, Dhawale	

<b>Session: Robotics-III</b> <b>Session Chair: Dr. Shubhankar Bhowmick</b>		<b>Session Date &amp; Time: 08/12/2023; 11.00 AM – 01:00 PM</b> <b>Venue 02: Dr. Vikram Sarabhai Hall(D-2)</b>
11:00 AM – 11:20 AM	<b>Path planning for a collaborative robot with a long tool through a constricted passage</b> Paper ID-70, Pusuluri, P, Shanmuganathan	
11:20 AM – 11:40 AM	<b>Digital twin-based path planning and obstacle avoidance for a quadruped robot</b> Paper ID-71, Naskar, Pothapragada, Shanmuganathan	
11:40 AM – 12:00 Noon	<b>Impact of misalignment on wearable arm robotic system</b> Paper ID-74, Bhavna, Ekta Singla and Dhiraj k Mahajan	
12.00 Noon – 12.20 PM	<b>Development of an intelligent image recognition system for a single actuating wave robot</b> Paper ID-75, Sivaramakrishnan Natesan, Lokesh Kumar N, Surya S, Bevan V and Vijayaragavan	
12.20 PM – 12.40 PM	<b>Design and development of an industrial grade mobile robot platform</b> Paper ID-89, Saha, Ishtiaque, Rahul	
12.40 PM – 01.00 PM	<b>Design analysis, motion planning and development of an inchworm-inspired biped wall-climbing robot</b> Paper ID-93, Bisht, Kaushik, Uniyal, Patel, Solanki	

<b>Session: Materials and Machine Design-II</b> <b>Session Chair: Dr. Sujata Srinivasan and Dr. G. Srinivasu</b>		<b>Session Date &amp; Time: 08/12/2023; 11.00 AM – 01:00 PM</b> <b>Venue 03: Dr. Homi Jehangir Bhabha (PPT Hall/CDC)</b>
11:00 AM – 11:20 AM	<b>Design and fabrication of a three-finger soft gripper</b> Paper ID-31, Dwivedi, Shukla, Gupta, Sher, Kumar	



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11:20 AM – 11:40 AM	<b>Crack sealing control of concrete pipe by robust sliding mode control with different reaching law</b> Paper ID-33, Santosh Kumar
11:40 AM – 12:00 Noon	<b>An adaptive control law for emergency braking of a dual cart-trolley overhead crane</b> Paper ID-79, Raj, Reddy
12.00 Noon – 12.20 PM	<b>Fault diagnosis of ball bearing using low-cost edge device and deep learning</b> Paper ID-37, Yadav, Gupta, Sheorey
12.20 PM – 12.40 PM	<b>Biomechanical evaluation of asymmetric lifting task in constrained lifting posture</b> Paper ID-41, Vijaywargiya, Bhiwapurkar
12.40 PM – 01.00 PM	<b>Design and development of a nitinol actuated, crab like milliscale octabot</b> Paper ID-103, D. Rashmi, Anoop Singh Yadav, Sunilkumar Ainwad

**8<sup>th</sup> December, 2023; 01:00 PM – 02:00 PM**

Lunch

**8<sup>th</sup> December, 2023; 02:00 PM – 03:15 PM**

Plenary Talk-3 + Industry Presentation-3

**8<sup>th</sup> December, 2023; 03:15 PM – 03:30 PM**

Tea Break

**8<sup>th</sup> December, 2023; 03:30 PM – 05:30 PM, Paper Presentation (Parallel Sessions)**

<b>Session: Machines and Mechanisms-IV</b> <b>Session Chair: Dr. Ashitava Ghosal and Dr. S. Sanayal</b>	<b>Session Date &amp; Time: 08/12/2023; 03.30 PM – 05:30 PM</b> <b>Venue 01: Dr. M. Visvesvaraya Hall (E-Hall)</b>
03:30 PM – 03:50 PM	<b>Experimental validation of the position and orientation workspaces of the stewart-gough platform</b> Paper ID-72, Suryanarayanan, Nag, Kumar, Saha
03:50 PM – 04:10 PM	<b>Design and development of automated office work desk with control for vertical height and horizontal alignment</b> Paper ID-21, Shashank S, Sandesh Nayak, Shashanth Kumar, Subramanya Nayak, Shravan Hegde and Yashas D
04:10 PM – 04:30 PM	<b>Design of an engaging-disengaging compliant mechanism by using bistable arches</b> Paper ID-78, Srivastava, Gunna, Kandiyaped Serkad, Sebastian, Palathingal
04:30 PM – 04:50 PM	<b>Development of mechanisms to perform in-situ cleaning of parting planes of DSRDM and DSR in FBR</b> Paper ID-81, Sabih, Patri, Sharma, Narmadha, Sreedhar
04:50 PM – 05:10 PM	<b>Analytical determination of link interference in planar parallel manipulators using elliptical enclosures</b> Paper ID-86, Kolte, Patra, Bandyopadhyay
05:10 PM – 05:30 PM	<b>Analysis of car roof crushing due to a freely falling tree trunk</b> Paper ID-91, Gupta, Patra

**Session: Robotics-IV**  
**Session Chair: Dr. N. V. S. Naidu**

**Session Date & Time: 08/12/2023; 03.30 PM – 05:30 PM**  
**Venue 03: Dr. Homi Jehangir Bhabha (PPT Hall/CDC)**

03:30 PM – 03:50 PM	<b>Safe working zone of an industrial robot: Scorbot</b> Paper ID-94, Dan, Choudhary, Prakash, Chakraborty, Yusuf, Chanda
03:50 PM – 04:10 PM	<b>Visual wrench guided robot-assisted spine surgery</b> Paper ID-98, Bharadvaj, Bhutani, Dwarakanath, Kumar
04:10 PM – 04:30 PM	<b>Design optimization of series elastic actuator (SEA) for lower limb rehabilitation exoskeleton</b> Paper ID-101, Mittapally, Srinivasan, Rakshit
04:30 PM – 04:50 PM	<b>Workspace and trajectory analysis of the 3-rpr planar parallel manipulators with joint clearance</b> Paper ID-104, Jaiswal, Barai, Jha, Alton Dsouza
<b>Session: Vibration and Control-II</b> <b>Session Chair: Dr. N. K. Jain</b>	
<b>Session Date &amp; Time: 08/12/2023; 03.30 PM – 05:30 PM</b> <b>Venue 03: Dr. Homi Jehangir Bhabha (PPT Hall/CDC)</b>	
04:50 PM – 05:10 PM	<b>Thermoelastic damping in a perforated MEMS resonator</b> Paper ID-76, Dwivedi, Jujjuvarapu, Pandey
05:10 PM – 05:30 PM	<b>Smart hybrid piezoelectric vibration control scheme in composite sandwich panels with mre core</b> Paper ID-99, Jonna, Srinivas

<b>Session: Materials and Machine Design-III</b> <b>Session Chair: Dr. G. Srinivasu</b>	
<b>Session Date &amp; Time: 08/12/2023; 03.30 PM – 05:30 PM</b> <b>Venue 02: Dr. Vikram Sarabhai Hall(D-2)</b>	
03:30 PM – 03:50 PM	<b>Biomechanical comparisons of v thread and trapezoidal thread screw-rod fixation in pedicle section of cervical spine: an in-silico study</b> Paper ID-57, Ram Kumar, Amit Kumar, Shabnam Kumari
03:50 PM – 04:10 PM	<b>Using SEA for reducing torque of an active compliance</b> Paper ID-35, Yadav, Gupta, Sheorey
04:10 PM – 04:30 PM	<b>Optimum hold-down configuration design for satellite dual gim-bal antenna mechanism using FEA</b> Paper ID-83, Ravichand, Balaji, Nagaraj
04:30 PM – 04:50 PM	<b>Design and analysis of a novel lower extremity exoskeleton with a polycentric knee joint</b> Paper ID-85, Barkataki, Kalita, Kirtania
04:50 PM – 05:10 PM	<b>Design of shape-changing drone mechanism under various drag and obstacles</b> Paper ID-88, Gothandaraman, Sai Ruthwique, Rengaraj
05:10 PM – 05:30 PM	<b>Design and development of staircase foldable mechanism</b> Paper ID-90, Ch. Naveen Reddy, Kode Jaya Prakash and Meda Ganesh Vaibhav

**8<sup>th</sup> December, 2023; 06:00 PM – 07:00 PM**

**General Body Meeting**

**8<sup>th</sup> December, 2023; 07:30 PM – 08:30 PM**

**Cultural Event**

**8<sup>th</sup> December, 2023; 08:30 PM Onwards**

**Conference Dinner**



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**07-09 December 2023**

**9<sup>th</sup> December, 2023; 09:00 AM – 09:30 AM**

Spot Registration for Participants

**9<sup>th</sup> December, 2023; 09:30 AM – 10:45 AM**

Plenary Talk-4 + Industry Presentation-4

**9<sup>th</sup> December, 2023; 10:45 AM – 11:00 AM**

Tea Break

**9<sup>th</sup> December, 2023; 11:00 AM – 12:00 Noon**

SMDC Evaluation

**9<sup>th</sup> December, 2023; 12:00 AM – 01:00 PM**

Prof. K. Lakshminarayana Memorial Lecture -2 by Dr. Sunil K. Agrawal (Professor, Columbia University, New York, USA)

**9<sup>th</sup> December, 2023; 01:00 PM – 02:00 PM**

Lunch

**9<sup>th</sup> December, 2023; 02:00 PM – 04:00 PM, Paper Presentation (Parallel Sessions)**

<b>Session: Machines and Mechanisms-V</b>		<b>Session Date &amp; Time: 09/12/2023; 02.00 PM – 04:00 PM</b>	
<b>Session Chair: Dr. S. Bandyopadhyay and Dr. S. Sanayal</b>		<b>Venue 01: Dr. M. Visvesvaraya Hall (E-Hall)</b>	
02.00 PM – 02.20 PM	<b>Symbolic approach in modelling of flexible multi-body systems using absolute nodal coordinate formulation (ANCF) cable element</b> Paper ID-92, Surya Pratap Rathour and Rama Krishna K		
02.20 PM – 02.40 PM	<b>Bond graph modelling of backlash and removal of its effect using dual drive</b> Paper ID-95, Shakya, Soni, Vaz		
02.40 PM – 03.00 PM	<b>Self-offloading footwear using a pin-connected-arch assembly and its comparison with a constant-force compliant mechanism</b> Paper ID-107, Muralidhar, Ananthasuresh		
03.00 PM – 03.20 PM	<b>Dynamically isotropic gough-stewart platform design with flexural joints</b> Paper ID-114, Yogesh Pratap Singh, Nazeer Ahmad and Ashitava Ghosal		
03.20 PM – 03.40 PM	<b>Design, analytical studies and realisation of a split nut hold-down mechanism for space applications</b> Paper ID-117, Anoop Kumar Srivastava, Sai Sreenivas, Sidharth Tiwary, K Prakasha, K Balaji, Abhishek Kumar		
03.40 PM – 04.00 PM	<b>Bolt failure investigation and remedial actions for non-explosive holddown mechanism used in dual axis drive mechanism for space application</b>		

	Paper ID-119, Anoop Kumar Srivastava, Gaurav Sharma, B Lakshminaryana, And Abhishek Kumar
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<b>Session: Robotics-V</b>		<b>Session Date &amp; Time: 09/12/2023; 02:00 PM – 03:00 PM</b>
<b>Session Chair: Dr. N. K. Jain and Dr. Jagpal Singh Bal</b>		<b>Venue 02: Dr. Vikram Sarabhai Hall(D-2)</b>
02.00 PM – 02.20 PM	<b>Vision guided robot for agriculture assistance</b> Paper ID-25, Patil, Nayak, Kabojinavar, Sankangoudar, Channammanavar	
02.20 PM – 02.40 PM	<b>Study of drag forces in fluid-filled pipe inspection robot</b> Paper ID-111, S. Haribabu, P.M. Pathak and S.P. Harsha	
02.40 PM – 03.00 PM	<b>Modelling of cable-driven continuum robots with multiple generally routed cables</b> Paper ID-113, Soumya Kanti Mahapatra, Ashitava Ghosal	

<b>Session: Materials and Machine Design-IV</b>		<b>Session Date &amp; Time: 09/12/2023; 02:00 PM – 04:00 PM</b>
<b>Session Chair: Dr. Sunil Agrawal and Dr. R. K. Sahu</b>		<b>Venue 03: Dr. Homi Jehangir Bhabha (PPT Hall/CDC)</b>
02.00 PM – 02.20 PM	<b>Synthesis of an adjustable linkage-based gait trainer to assist in flat and slope walking</b> Paper ID-97, Ram Prakash S and Somasekhara Rao Todeti	
02.20 PM – 02.40 PM	<b>Finite element analysis of thick beam attached with piezoelectric strips for offshore pipeline application</b> Paper ID-47, Megha, Kaliveeran	
02.40 PM – 03.00 PM	<b>Prototyping of QR code entrance guard system for pandemic preparedness, with respect to covid 19 experience</b> Paper ID-109, Varsha K. Patil, Aditya K Patil, Abhlah Negi	
03.00 PM – 03.20 PM	<b>Development, challenges and on-orbit deployment of a large flexible antenna on communication satellite</b> Paper ID-118, Anoop Kumar Srivastava, K Prakasha, Abhishek Kumar, H N Suresh Kumar	
03.20 PM – 03.40 PM	<b>Deep learning-based comparison of performance of different object detection models for images obtained at various elevations using UAV</b> Paper ID-105, Prasad, Sahu, Saket	
03.40 PM – 04.00 PM	<b>Advancing Wound Healing with Negative Pressure Wound Therapy</b> Paper ID-116, Abhipri Dubey, Nainee Pandya and Suwarna Torgal	

**9<sup>th</sup> December, 2023; 04:30 PM – 06:00 PM**

**Valedictory Session**

**9<sup>th</sup> December, 2023; 06:00 PM – 06:30 PM**

**High Tea**