



A17

A10

Health Centre

Bus stop

Village square

Auditorium

C. V. Raman  
Guest house

Bus stop

## Emergency Contacts

<b>Sr. No</b>	<b>Name</b>	<b>Contact No.</b>
1	Medical Centre (North Campus)	9816663003
2	Mega Store (Shopping) (North Campus)	9481024186
3	Stationary (Shopping) (North Campus)	9815712601, 8626873554
4	Security (North Campus)	01905267983, 9418053088

**Indian Institute of Technology Mandi**  
**भारतीय प्रौद्योगिकी संस्थान मंडी**



**Institute Vehicle Schedule**  
**(With effect from August 19th 2022)**  
**संस्थान वाहन समय सारणी**  
**(दिनांक 19 अगस्त 2022 से प्रभावी)**

**Transport Control Room (South campus: 01905-267096) / (North campus: 01905-267219)**  
**परिवहन नियंत्रण कक्ष (दक्षिण परिसर: 01905-267096) / (उत्तरी परिसर: 01905-267219)**

**Between South & North Campus  
(on Weekday)  
दक्षिणी परिसर और उत्तरी परिसर के मध्य**

Day/दिन	Vehicle/ वाहन	South to North Campus दक्षिणी परिसर से उत्तरी परिसर	North to South Campus उत्तरी परिसर से दक्षिणी परिसर
Mon-Fri	Bus E	06:00	
Mon-Fri	Bus B	07:30	
Mon-Fri	Bus A	07:45	
Mon-Fri	Van		07:45
Mon-Fri	Bus B		08:15
Mon-Fri	Bus A	08:15	08:30
Mon-Fri	Bus B	08:30	08:45
Mon-Fri	Bus E, F & G	08:45	-
Mon-Fri	Bus G & E	-	09:15
Mon-Fri	Bus A	09:15	09:30
Mon-Fri	Bus G	09:30	09:45
Mon-Fri	Bus E & B	09:45	10:15
Mon-Fri	Bus G	10:15	10:30
Mon-Fri	Bus E	10:30	10:45
Mon-Fri	Bus G & B	10:45	11:15
Mon-Fri	Bus E	11:15	11:30
Mon-Fri	Bus G	11:30	11:45
Mon-Fri	Bus E	11:45	12:15
Mon-Fri	Bus B	12:15	12:30
Mon-Fri	Bus E	12:30	12:45
Mon-Fri	Bus A	12:45	13:15
Mon-Fri	Bus B	13:15	13:30
Mon-Fri	Bus A	13:30	13:45
Mon-Fri	Bus B	13:45	14:15
Mon-Fri	Bus A	14:15	14:30
Mon-Fri	Bus B	14:30	14:45

**Between South & North Campus  
(on Weekend)  
दक्षिणी परिसर और उत्तरी परिसर के मध्य**

Day/दिन	Vehicle/ वाहन	South to North Campus दक्षिणी परिसर से उत्तरी परिसर	North to South Campus उत्तरी परिसर से दक्षिणी परिसर
Sat, Sun & Hol	Bus E	06:00	
Sat, Sun & Hol	Bus A	07:45	
Sat, Sun & Hol	Van		07:45
Sat, Sun & Hol	Bus B		08:15
Sat, Sun & Hol	Bus A	08:15	08:30
Sat, Sun & Hol	Bus B	08:30	08:45
Sat, Sun & Hol	Bus E, F & G	08:45	-
Sat, Sun & Hol	Bus A	-	09:15
Sat, Sun & Hol	Bus G	09:15	09:45
Sat, Sun & Hol	Bus A	09:45	10:15
Sat, Sun & Hol	Bus G	10:15	10:45
Sat, Sun & Hol	Bus E	10:45	11:15
Sat, Sun & Hol	Bus G	11:15	11:45
Sat, Sun & Hol	Bus E	11:45	12:15
Sat, Sun & Hol	Bus B	12:15	12:45
Sat, Sun & Hol	Bus A	12:45	13:15
Sat, Sun & Hol	Bus B	13:15	13:45
Sat, Sun & Hol	Bus A	13:45	14:15
Sat, Sun & Hol	Bus B	14:15	14:45
Sat, Sun & Hol	Bus A	14:45	15:15
Sat, Sun & Hol	Bus D	15:15	15:45
Sat, Sun & Hol	Bus C	15:45	16:15
Sat, Sun & Hol	Bus D	16:15	16:45
Sat, Sun & Hol	Bus C	16:45	17:15
Sat, Sun & Hol	Bus D	17:15	17:45
Sat, Sun & Hol	Bus C	17:45	18:15

**Between North/South & Mandi  
उत्तरी परिसर/दक्षिणी परिसर और मण्डी के मध्य**

Day/दिन	Vehicle/ वाहन	Mandi to North (via South) मण्डी से उत्तरी परिसर (वाया दक्षिणी परिसर)	South Campus दक्षिणी परिसर	North (via South) to Mandi उत्तरी परिसर से मण्डी (वाया दक्षिणी परिसर)
Mon-Sun & Hol	Bus A	07:00	07:45 >>	
Mon-Sun & Hol	Bus E		<< 07:10	07:00
Mon-Sun & Hol	Van		<< 07:55	07:45
Mon-Sun & Hol	Bus E, F, G	08:00	08:45 >>	
Mon-Sun & Hol	Bus F		<< 09:10	09:00
Mon-Sun & Hol	Van	10:00	10:45 >>	
Mon-Sun & Hol	Bus F	12:00	12:45 >>	
Mon-Sun & Hol	Bus G		<< 14:10	14:00
Saturday	Van		<< 14:10	14:00
Mon-Sun & Hol	Bus A, B		<< 16:10	16:00
Mon-Sun & Hol	Bus G	15:15	16:00 >>	
Saturday	Van	15:00	15:45 >>	
Mon-Sun & Hol	Bus A & B	17:00	17:45 >>	
Mon-Fri	Bus E, F, G		<< 17:50	17:40
Sat, Sun & Hol	Bus F, G		<< 17:50	17:40
Mon-Sun & Hol	Van		<< 18:10	18:00
Mon-Sun & Hol	Bus A		<< 19:10	19:00
Mon-Sun & Hol	Bus F	19:00	19:45 >>	
Mon-Sun & Hol	Van (Standby)	19:00	19:45 >>	
Mon-Sun & Hol	Bus F		<< 20:10	20:00
Mon-Sun & Hol	Bus E	21:00	21:45 >>	
Sat, Sun & Hol	Bus G	21:00	21:45 >>	

Mon-Fri	Bus A	14:45	15:15
Mon-Fri	Bus D	15:15	15:30
Mon-Fri	Bus C	15:30	15:45
Mon-Fri	Bus D	15:45	16:15
Mon-Fri	Bus C	16:15	16:30
Mon-Fri	Bus D	16:30	16:45
Mon-Fri	Bus C	16:45	17:15
Mon-Fri	Van	-	17:15
Mon-Fri	Bus D	17:15	17:30
Mon-Fri	Bus C	17:30	17:45
Mon-Fri	Van	17:30	-
Mon-Fri	Bus D	17:45	18:15
Mon-Fri	Bus C	18:15	18:30
Mon-Fri	Bus D	18:30	18:45
Mon-Fri	Bus C	18:45	19:15
Mon-Fri	Bus D	19:15	19:30
Mon-Fri	Bus C	19:30	19:45
Mon-Fri	Bus D	19:45	20:15
Mon-Fri	Bus C	20:15	20:30
Mon-Fri	Bus D	20:30	20:45
Mon-Fri	Bus C	20:45	21:15
Mon-Fri	Bus D	21:15	21:30
Mon-Fri	Bus C	21:30	21:45
Mon-Fri	Bus D	21:45	22:00
Mon-Fri	Bus C	22:00	22:30
Mon-Fri	Bus D	22:30	23:00
Mon-Fri	Bus C	23:00	23:30
Mon-Fri	Bus D	23:30	24:00
Mon-Fri	Bus C	24:00	

Sat, Sun & Hol	Bus D	18:15	18:45
Sat, Sun & Hol	Bus C	18:45	19:15
Sat, Sun & Hol	Bus D	19:15	19:45
Sat, Sun & Hol	Bus C	19:45	20:15
Sat, Sun & Hol	Bus D	20:15	20:45
Sat, Sun & Hol	Bus C	20:45	21:15
Sat, Sun & Hol	Bus D	21:15	21:45
Sat, Sun & Hol	Bus C	21:45	

Institute Vehicle Schedule for Campus School				
Day	Vehicle	South Campus to School	School	North Campus to School
Mon- Sat	Bus A	08:45 >>		
Mon- Sat	Bus E			<< 09:00
Mon- Sat	Bus G		<< 12:50	
Mon- Sat	Bus F		<< 15:10	
Mon- Sat	Bus C		15:10 >>	

Institute Vehicle Schedule for Garpha		
Day	Vehicle	North Campus to Garpha
Mon-Sun & Hol	Van	20:00
Mon-Sun & Hol	Van	21:00

### Guide lines for Institute Transport:

- You may book your seat through online booking facility available on this link:  
<https://oas.iitmandi.ac.in/instituteprocess/common/login.aspx>  
 (this facility is available only on buses move between Mandi to Kamand)

आप निम्नलिखित सम्पर्क पर ऑनलाईन बुकिंग सुविधा के माध्यम से अपनी सीट बूक कर सकते हैं।  
<https://oas.iitmandi.ac.in/instituteprocess/common/login.aspx>  
 (यह सुविधा केवल मण्डी से कमान्द के मध्य बस संचालन के लिए उपलब्ध है)



20	<b>Prashar Road Turning Point / पराशर रोड टर्निंग प्वाइंट</b>
21	<b>North Campus Bridge (Near Security Post) / उत्तरी परिसर पुल (सुरक्षा चौकी के समीप)</b>
22	<b>North Campus (Sir C V Raman Guest House) / उत्तरी परिसर (सर सी.वी. रमन अतिथि गृह)</b>

**HRTC bus timing operate through Kamand**

S. No.	Source	Destination	Onwards Timing	Return Timing
1	Mandi	Kullu	06:00	-
2	Mandi	Parashar	07:45	13:30
3	Mandi	Batheri	08:15	12:00
4	Mandi	Jawalapur	11:30	-
5	Mandi	Kandlu	13:00	16:15
6	Mandi	Kullu	14:00	-
7	Mandi	Batheri	15:00	07:00
8	Mandi	Doohki	17:15	06:00
9	Kullu	Mandi	06:40	-
10	Bajoura	Mandi	04:30	-

# Final Time Table for ISTAM-2022 Conference

**CONFERENCE REGISTRATION:** 4:00 PM – 7:00 PM, December 13, 2022 (Venue: Hostels/Guest House)

7:00 AM – 8:45 AM, December 14, 2022 (Venue: Auditorium Complex)

**Date: 14-12-2022 (Wednesday)**

9:00-10:20 Auditorium	10:20-11:00	11:00-12:00 Auditorium	12:00-1:00 Auditorium	1:00-2:15	2:15-4:15 A10 Building	4:30-5:00 Hall A & B		5:00-5:50 Auditorium
Inauguration	High Tea	Plenary Lecture By Prof. Vijay P. Singh	<i>Prof. G. I. Taylor</i> Lecture by Prof. J. N. Reddy	Lunch	Contributed Sessions-1	Invited Lecture by Dr. Debanik Roy	Invited Lecture by Prof. P. Bera	<i>Prof. B. Karunesh</i> Lecture by Prof. Sarit K. Das

**Date: 15-12-2022 (Thursday)**

9:00-9:50 Auditorium	10:00-10:35 (Online) Hall A & B		10:35-11:10 Hall A & B		11:30-1:00 A10 Building	1:00-2:15	2:15-4:00 A10 Building	4:15-4:50 (Online) Hall A & B		5:00-5:50 Auditorium
<i>Prof. P. L. Bhatnagar</i> Lecture by Prof. C. Kong	Invited Lecture by Prof. Khoo Boo Cheong	Invited Lecture by Prof. Arun Srinivasa	Invited Lecture by Prof. J. C. Kalita	Invited Lecture by Prof. Trilochan Sahoo	Contributed Sessions-2	Lunch	Contributed Sessions-3	Invited Lecture by Prof. Adrian Muntean	Invited Lecture by Prof. Prabal Talukdar	<i>Prof. A. S. Gupta</i> Lecture by Prof. Sanjay Mittal

**Date: 16-12-2022 (Friday)**

9:00-10:00 Auditorium	10:00-10:50 Auditorium	11:00-11:35 Hall A & B		11:45-1:00 A10 Building	1:00-2:15	2:15-2:50 Hall A & B		3:00-4:00 Auditorium
Plenary Lecture By Dr. Makrand Joshi	<i>Prof. B R Seth</i> Lecture by Prof. D. Pham Van Bang	Invited Lecture by Prof. Manoranjan Mishra	Invited Lecture by Prof. Chia-Cheng Tsai	Contributed Sessions-4	Lunch	Invited Lecture by Prof. Abhijit Mukherjee	Invited Lecture by Dr. Miguel Zapata	Valedictory

# Contributed Sessions-1

Session Chair: **Prof. Rajeev Kumar**

Parallel Session-1

Session Venue: **A10-1a**

**Date: 14 Dec 2022, Time: 2:15 PM – 4:15 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0017	Design and analysis of piezoaeroelastic energy harvester using a torsional spring from aeroelastic flutter	<b>2:15-2:27 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>2.</b>	PA0086	Analyzing machine learning approaches for Lamb wave based damage detection	<b>2:27-2:39 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>3.</b>	PA0103	Identification of Structural Nonlinearities from Aircraft Structural Coupling Tests	<b>2:39-2:51 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>4.</b>	PA0139	Stochastic RBFN-based reliability estimation of variable fiber spacing composite plates under thermal loading	<b>2:51-3:03 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>5.</b>	PA0143	Bending Analysis of Functionally Graded Plates Under Mechanical and Thermal Environment Using Non-Polynomial Shear Deformation Theory	<b>3:03-3:15 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>6.</b>	PA0176	Free Vibration analysis of thin membrane using EFGM	<b>3:15-3:27 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>7.</b>	PA0199	Multi-pass weld influence on the microstructure of gas tungsten arc welded Ti-6Al-4V alloy	<b>3:27-3:39 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>8.</b>	PA0246	Investigation of Composite Materials for a Remote Sensing CubeSat Structure: An Alternative to Traditional Aluminum Alloys	<b>3:39-3:51 PM</b>	AEROSPACE STRUCTURES (SM1)
<b>9.</b>	PA0282	Programming shape based on mechanics of origami	<b>3:51-4:03 PM</b>	AEROSPACE STRUCTURES (SM1)



## Contributed Sessions-1

Session Chair: **Prof. V. D. Narasimhamurthy** Parallel Session-2 Session Venue: **A10-1c**

**Date: 14 Dec 2022, Time: 2:15 PM – 4:15 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0026	Water wave scattering by a circular flexible porous plate	<b>2:15-2:27 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>2.</b>	PA0027	Linearized Saint-Venant equations with uniformly distributed lateral inflow	<b>2:27-2:39 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>3.</b>	PA0034	Scattering of water waves with floating bridge in presence of horizontal porous plate over trench type bottom topography	<b>2:39-2:51 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>4.</b>	PA0035	Effect of porous layer fitted on a floating bridge in mitigating wave reflection	<b>2:51-3:03 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>5.</b>	PA0041	Study of water wave interaction with a submerged bottom-mounted compound porous cylinder in the presence of a porous sea-bed	<b>3:03-3:15 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>6.</b>	PA0083	Water wave scattering by undulating bottom in a two-layer fluid in the presence of current and surface tension	<b>3:15-3:27 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>7.</b>	PA00112	The general model of the outer size of the tropical cyclone	<b>3:27-3:39 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>8.</b>	PA0306	A general model for steady-state whirlwinds	<b>3:39-3:51 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
<b>9.</b>	PA0307	An analytical model of stationary atmospheric vortices	<b>3:51-4:03 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)

## **Contributed Sessions-1**

Session Chair: **Prof. Damodar Maity**

Parallel Session-3

Session Venue: **A10-1d**

**Date: 14 Dec 2022, Time: 2:15 PM – 4:15 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0036	Maximization of Fundamental Frequency for Laminated Composite Shells Using Metaheuristic Techniques	<b>2:15-2:27 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>2.</b>	PA0043	Free vibration analysis of laminated composite plate resting on two-parameter elastic foundation using Finite Element Method	<b>2:27-2:39 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>3.</b>	PA0152	Novel Fringing Field Model for MEMS Resonators	<b>2:39-2:51 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>4.</b>	PA0050	Optimal Partial Safety Factor Calibration of Structure Considering Series System Failure	<b>2:51-3:03 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>5.</b>	PA0062	Modeling and Analysis of Inflated Air-Spring	<b>3:03-3:15 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>6.</b>	PA0080	Haskell matrix method and Love-type waves propagating in multi-layered elastic media containing voids	<b>3:15-3:27 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>7.</b>	PA0089	Isogeometric Analysis of beam structures	<b>3:27-3:39 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>8.</b>	PA0105	Explicit Finite Element Simulation for Failure Prediction	<b>3:39-3:51 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>9.</b>	PA0113	Nonlinear Dynamics of Bistable Piezoelectric Harvester with Symmetric Elastic Constraints	<b>3:51-4:03 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)

## Contributed Sessions-1

Session Chair: **Dr. Ajey Kumar Patel**

Parallel Session-4

Session Venue: **A10-2a**

**Date: 14 Dec 2022, Time: 2:15 PM – 4:15 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0172	Study on air flow profile in an indoor space using CFD	<b>2:15-2:27 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>2.</b>	PA0002	Theoretical analysis of unsteady buoyant turbulent heat and mass transport from a vertical plate using LRN $k-\mu$ model	<b>2:27-2:39 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>3.</b>	PA0067	An efficient explicit jump higher order compact immersed interface approach for transient incompressible viscous flows	<b>2:39-2:51 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>4.</b>	PA0098	Thermal Convection For Ferrofluid Layer with Different Boundary Conditions	<b>2:51-3:03 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>5.</b>	PA0109	Investigation of dilating/squeezing asymmetric channel flow due to MHD hybrid nanofluid flow.	<b>3:03-3:15 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>6.</b>	PA0110	Comparative Study of Damage Models of Koyna Dam under Blast loading by Coupled Eulerian Lagrangian Technique	<b>3:15-3:27 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>7.</b>	PA00131	Numerical Investigation of Wave Forces on Large Rectangular Cylinder using REEF3D	<b>3:27-3:39 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>8.</b>	PA0183	Flow Visualization in Natural Convective Flow in Differentially Heated Cubical Cavity	<b>3:39-3:51 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>9.</b>	PA0214	Study of parameters influencing aerodynamics of train-tunnel system	<b>3:51-4:03 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>10.</b>	PA0215	Plasma flow control on a pitching airfoil	<b>4:03-4:15 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)

## Contributed Sessions-1

Session Chair: **Dr. Ram Prakash Sharma**

Parallel Session-5

Session Venue: **A10-2b**

**Date: 14 Dec 2022, Time: 2:15 PM – 4:15 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0001	Thermoconvective linear and nonlinear stability of a double-diffusive Hadley-Prats flow by Soret effect and internal heat source in a horizontal porous	<b>2:15-2:27 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>2.</b>	PA00021	Double-diffusive convection in Darcy porous layer under inclined temperature gradient incorporating the Soret effect	<b>2:27-2:39 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>3.</b>	PA0024	Onset of porous convection in a viscoelastic fluid with an internal heat source using LTNE model	<b>2:39-2:51 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>4.</b>	PA0059	Effects of boundary absorption and wind on environmental dispersion for wetland flows	<b>2:51-3:03 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>5.</b>	PA0060	Wave scattering by flexible porous breakwater in the presence of step-type bottom	<b>3:03-3:15 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>6.</b>	PA0064	Uni-modal grain size distribution in a two-phase flow over a fine sand bed	<b>3:15-3:27 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>7.</b>	PA0087	A deep learning-based numerical approach for the natural convection inside a porous media	<b>3:27-3:39 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>8.</b>	PA0099	Waves past a rigid porous structure in stratified water of varying depth	<b>3:39-3:51 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>9.</b>	PA0118	The effect of chemical reaction on Stationary thermosolutal magneto-convection under non-equilibrium temperature conditions	<b>3:51-4:03 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)

## Contributed Sessions-1

Session Chair: **Dr. Debanik Roy**

Parallel Session-6

Session Venue: **A10-2c**

**Date: 14 Dec 2022, Time: 2:15 PM – 4:15 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

S. No	Paper ID	Paper Title	Time Slot	Topic
1.	PA0061	Fixed-time stability of nonlinear impulsive dynamical systems and its application to memristor neural networks	<b>2:15-2:27 PM</b>	ROBOTICS AND CONTROL (SM9)
2.	PA0145	Comparative Study of kinematic analyses of conventional and Modified Theo Jansen mechanisms	<b>2:27-2:39 PM</b>	ROBOTICS AND CONTROL (SM9)
3.	PA0225	Motion control study in energy-saving electrohydraulic system for RCGA-based identification of valve-cylinder parameters	<b>2:39-2:51 PM</b>	ROBOTICS AND CONTROL (SM9)
4.	PA0228	RCGA-based parameter identification of a variable-displacement pump for force tracking in an electrohydraulic system	<b>2:51-3:03 PM</b>	ROBOTICS AND CONTROL (SM9)
5.	PA0229	Heave tracking by an electrohydraulic serial-parallel manipulator	<b>3:03-3:15 PM</b>	ROBOTICS AND CONTROL (SM9)
6.	PA0028	Generalized homotopy perturbation approach: an application to wave partial differential equations	<b>3:15-3:27 PM</b>	ELASTICITY (SM4)
7.	PA0155	A spectral scheme to study elastodynamic fracture problem at the interface of a layer and a half-plane	<b>3:27-3:39 PM</b>	ELASTICITY (SM4)
8.	PA0194	Estimation of the residual stresses in thermal autofrettage of thin disk using Von mises yield criterion	<b>3:39-3:51 PM</b>	ELASTICITY (SM4)
9.	PA0205	Specific heat and magnetic effects in orthotropic piezoelectric micropolar medium under three-phase-lag thermoelastic model.	<b>3:51-4:03 PM</b>	ELASTICITY (SM4)

## **Contributed Sessions-2**

Session Chair: **Dr. Raj Kumar Sahu** Parallel Session-1 Session Venue: **A10-1a**

**Date: 15 Dec 2022, Time: 11:30 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0163	Modified Model for Soft Filler based Polymer Nanocomposite to Predict the Mechanical Behavior	<b>11:30-11:42 AM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>2.</b>	PA0127	Influence of governing parameters on the molecular dynamics study of Boron Nitride Tube	<b>11:42-11:54 AM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>3.</b>	PA0147	Propagation of Rayleigh-type wave in a microstretch elastic solid with voids	<b>11:54-12:06 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>4.</b>	PA0162	A Deep Learning Based Approach to Estimate Unbalance of a Flexible Rotor	<b>12:06-12:18 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>5.</b>	PA0192	A study of stress profiles in cyclic bending of an elasto-plastic beam	<b>12:18-12:30 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>6.</b>	PA0197	Simulation of Functionally Graded thermal barrier coating (TBC) over Al-Si Piston using Finite Element Method	<b>12:30-12:42 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>7.</b>	PA0200	Transient analysis of graphene reinforced FG-porous sandwich plates subjected to underwater blast	<b>12:42-12:54 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)

## Contributed Sessions-2

Session Chair: **Dr. Subhas C. Martha**

Parallel Session-2

Session Venue: **A10-1c**

**Date: 15 Dec 2022, Time: 11:30 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0018	Time-domain simulation of flexural-gravity waves in a compressed sea-ice subject to 2D current over a stratified ocean	<b>11:30-11:42 AM</b>	GEOPHYSICAL & ENVIRONMENTAL FLUID DYNAMICS (FM11)
<b>2.</b>	PA0023	Improved model of Reynolds shear stress distribution using modified second log-wake law at the central section of open channels	<b>11:42-11:54 AM</b>	GEOPHYSICAL & ENVIRONMENTAL FLUID DYNAMICS (FM11)
<b>3.</b>	PA0212	A decomposition based Long short-term memory model for reservoir inflow forecasting	<b>11:54-12:06 PM</b>	GEOPHYSICAL & ENVIRONMENTAL FLUID DYNAMICS (FM11)
<b>4.</b>	PA0240	Wave diffraction in a two-layer fluid by the submerged horizontal circular cylindrical pipe in front of a cliff as a vertical wall	<b>12:06-12:18 PM</b>	GEOPHYSICAL & ENVIRONMENTAL FLUID DYNAMICS (FM11)
<b>5.</b>	PA0208	MHD and viscous dissipation effects due to Graphene based nanofluid flow in concentric cylinders	<b>12:18-12:30 PM</b>	BOUNDARY LAYERS (FM5)
<b>6.</b>	PA0209	Numerical study of Graphene based nanofluid flow in an inclined channel	<b>12:30-12:42 PM</b>	BOUNDARY LAYERS (FM5)

## Contributed Sessions-2

Session Chair: **Prof. Gaurav Sharma**    Parallel Session-3    Session Venue: **A10-1d**

**Date: 15 Dec 2022,    Time: 11:30 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0223	Revisiting the Linear Stability of Surfactant Laden Liquid Film Flow inside of a Tube in creeping flow limit	<b>11:30-11:42 AM</b>	LOW-REYNOLDS NUMBER FLOW (FM12)
<b>2.</b>	PA0138	Numerical investigation of effect of odd viscosity on the stability of the flow of thin liquid film on an inclined plane in the presence of a normal electric field	<b>11:42-11:54 AM</b>	LOW-REYNOLDS NUMBER FLOW (FM12)
<b>3.</b>	PA0186	Prediction of bifurcation phenomenon inside a sudden expansion pipe using neural network	<b>11:54-12:06 PM</b>	LOW-REYNOLDS NUMBER FLOW (FM12)
<b>4.</b>	PA0305	Prediction of Drag Force over a Blunt Bicone Model with Accelerometer force balance at high-speed environment using Vibration SDOF Technique	<b>12:06-12:18 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
<b>5.</b>	PA0308	Use of Homotopy Analysis Method for solving the problem of Flow and Heat Transfer characteristics of Casson thin liquid Film towards an Unsteady Stretching Surface	<b>12:18-12:30 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)



## **Contributed Sessions-2**

Session Chair: **Prof. D. Pham Van Bang**      Parallel Session-4      Session Venue: **A10-2a**

**Date: 15 Dec 2022,      Time: 11:30 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0040	Development and performance evaluation of a novel high density clean packer and completion fluid for oil and gas field application	<b>11:30-11:42 AM</b>	EXPERIMENTAL METHODS IN FLUID DYNAMICS (FM9)
<b>2.</b>	PA0094	Propagation Of Blast Wave in A Rotational Axisymmetric Non-Ideal Gas: Power Series Method	<b>11:42-11:54 AM</b>	EXPERIMENTAL METHODS IN FLUID DYNAMICS (FM9)
<b>3.</b>	PA0102	Comparative study of the scaling of sediment transport in a bifurcated channel with reference to the river Kangasabati	<b>11:54-12:06 PM</b>	EXPERIMENTAL METHODS IN FLUID DYNAMICS (FM9)
<b>4.</b>	PA0151	Physical Model Study of Alluvial Bend Channel with and without Structural Measures	<b>12:06-12:18 PM</b>	EXPERIMENTAL METHODS IN FLUID DYNAMICS (FM9)
<b>5.</b>	PA0230	Study of effect of heat transfer nanofluid flow over parallel plates using homotopy analysis method	<b>12:18-12:30 PM</b>	EXPERIMENTAL METHODS IN FLUID DYNAMICS (FM9)
<b>6.</b>	PA0278	Fabrication and Thermal Characterization of a Coaxial Thermal Probe	<b>12:30-12:42 PM</b>	EXPERIMENTAL METHODS IN FLUID DYNAMICS (FM9)

## **Contributed Sessions-2**

Session Chair: **Dr. Prateek Saxena**    Parallel Session-5    Session Venue: **A10-2b**

**Date: 15 Dec 2022,    Time: 11:30 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0049	Torsional surface waves in a threefold concentric compounded cylinder with imperfect interface	<b>11:30-11:42 AM</b>	MECHANICS OF COMPOSITES (SM7)
<b>2.</b>	PA0055	A design guideline of laminated composite plate roof with cut-out	<b>11:42-11:54 AM</b>	MECHANICS OF COMPOSITES (SM7)
<b>3.</b>	PA0065	Study of impact induced response of simply supported laminated composite conoidal shell by finite element method	<b>11:54-12:06 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>4.</b>	PA0074	Analysis of Unidirectional Polyethylene-Glass Fiber Reinforced Phenolic Polymer Composite Laminate	<b>12:06-12:18 PM</b>	MECHANICS OF COMPOSITES (SM7)

## **Contributed Sessions-2**

**Parallel Session-6 (Young Scientist Award Presentations) Session Venue: A10-c**

**Date: 15 Dec 2022, Time: 11:30 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0042	Elastodynamic response of CSH waves in a multi-layered cylinder composed of reinforced and piezo-materials.	<b>11:30-11:42 AM</b>	MECHANICS OF COMPOSITES (SM7)
<b>2.</b>	PA0053	Analysis of flexoelectricity on SH wave dispersion in a loosely bonded electromagnetic composite	<b>11:42-11:54 AM</b>	MECHANICS OF COMPOSITES (SM7)
<b>3.</b>	PA0071	Dynamical Behaviour of Torsional Surface Wave in Layered Dry Sandy Media	<b>11:54-12:06 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>4.</b>	PA0073	Onset of instability and Effect of Diffusion in Miscible Displacements with Non-Monotonic Viscosity Profiles	<b>12:06-12:18 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)

## **Contributed Sessions-3**

Session Chair: **Prof. C. Kong**      **Parallel Session-1**      Session Venue: **A10-1a**

**Date: 15 Dec 2022,    Time: 2:15 PM – 4:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0126	Influence of geometric and mechanical constraints on the chemo-mechanics of the first lithiation of crystalline silicon	<b>2:15-2:27 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>2.</b>	PA0210	Effect of the internal length scale parameter in gradient damage mechanics	<b>2:27-2:39 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>3.</b>	PA0213	Subdomain boundary forces estimation of bridge structure under vehicle loading using interacting Ensemble-Particle filtering	<b>2:39-2:51 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>4.</b>	PA0216	Nanoindentation of Nano-crystalline Cu-Ni Alloy Thin Films employing Indenter Dynamics and Parameter Variation - A Molecular Dynamics Approach	<b>2:51-3:03 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>5.</b>	PA0218	Electromechanical response of partial nano unimorph beams considering surface and flexoelectric effects	<b>3:03-3:15 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>6.</b>	PA0219	Programming in-plane and out-of-plane auxeticity in metamaterials through exploiting hybrid unit cells	<b>3:15-3:27 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>7.</b>	PA0233	Influence of different wave characteristics on the propagation of surface waves in a piezo-thermoelastic half-space	<b>3:27-3:39 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>8.</b>	PA0237	Assessment of intra-laminar macro damage in textile composite using gradient enhanced continuum damage mechanics method	<b>3:39-3:51 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)

## Contributed Sessions-3

Session Chair: **Prof. S. R. Pentyala**    Parallel Session-2    Session Venue: **A10-1c**

Date: **15 Dec 2022**,    Time: **2:15 PM – 4:00 PM**

Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)

S. No	Paper ID	Paper Title	Time Slot	Topic
1.	PA309	Finite element analysis of free convection of nanofluid in an open wavy porous cavity heated by partial heat source	<b>2:15-2:27 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)
2.	PA0227	Vapour Cloud Explosion Modeling using the Porosity Distributed Resistance (PDR) approach	<b>2:27-2:39 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)
3.	PA0234	Scalar and Directional Localized Artificial Diffusivity Methods to Capture Shock-Turbulence Interaction	<b>2:39-2:51 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)
4.	PA0239	Higher Order Accurate Numerical Simulation of Shear Flow Past a Circular Cylinder with an Attached Arc-Shaped Control Plate	<b>2:51-3:03 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)
5.	PA0247	Entropy generation analysis and heat transfer performance in a corrugated cavity for hybrid nanofluids	<b>3:03-3:15 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)
6.	PA0259	Impact of Time-Periodic Pulsating Temperature on Heat Transfer in Airflow from an Unconfined Circular Cylinder with $Re=180$	<b>3:15-3:27 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)
7.	PA0284	Momentum, heat and mass transfer in the hydrodynamic electrically conducting fluid flow over a stretching sheet	<b>3:27-3:39 PM</b>	COMPUTATIONAL FULID DYNAMICS (FM7)

## **Contributed Sessions-3**

Session Chair: **Dr. Vishal Singh Chauhan** Parallel Session-3 Session Venue: **A10-1d**

**Date: 15 Dec 2022, Time: 2:15 PM – 4:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0056	Effect of crack position on remote stress for crack propagation and stress field near the crack tip	<b>2:15-2:27 PM</b>	FRACTURE AND CRACK (SM6)
<b>2.</b>	PA0136	Design of a Bone-Inspired Composite	<b>2:27-2:39 PM</b>	FRACTURE AND CRACK (SM6)
<b>3.</b>	PA0189	Failure analysis of quasi-brittle materials using CZM based floating node method	<b>2:39-2:51 PM</b>	FRACTURE AND CRACK (SM6)
<b>4.</b>	PA0193	An efficient enrichment approach for fracture simulations using element free galerkin method	<b>2:51-3:03 PM</b>	FRACTURE AND CRACK (SM6)
<b>5.</b>	PA0198	Detection of edge crack modeled as rotational spring by using Bayesian filtering in beam like structure	<b>3:03-3:15 PM</b>	FRACTURE AND CRACK (SM6)
<b>6.</b>	PA0270	Stress field analysis of an edge crack under Time- Harmonic wave disturbance	<b>3:15-3:27 PM</b>	FRACTURE AND CRACK (SM6)
<b>7.</b>	PA0273	Experimental and numerical investigations of cyclic plastic deformation of cryorolled AA 5754	<b>3:27-3:39 PM</b>	FRACTURE AND CRACK (SM6)
<b>8.</b>	PA0274	Numerical investigation of crack propagation in industrial pipeline using extended finite element method	<b>3:39-3:51 PM</b>	FRACTURE AND CRACK (SM6)

## Contributed Sessions-3

Session Chair: **Prof. P. Bera**    **Parallel Session-4**

Session Venue: **A10-2a**

**Date: 15 Dec 2022,    Time: 2:15 PM – 4:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0020	Surface wave profile due to oscillatory motion of an asymmetric block of ocean floor	<b>2:15-2:27 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>2.</b>	PA0022	ESR fractional model with non-zero uniform average blood velocity	<b>2:27-2:39 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>3.</b>	PA0045	Wave scattering by a partial flexible-porous breakwater moored in water of varying depth	<b>2:39-2:51 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>4.</b>	PA0066	Flexural gravity wave blocking in a submerged plate resting on a viscoelastic foundation	<b>2:51-3:03 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>5.</b>	PA0072	Liquid sloshing in 3D storage tanks	<b>3:03-3:15 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>6.</b>	PA0106	Scattering of oblique flexural gravity waves by an articulated floating elastic plate within the frame of wave blocking	<b>3:15-3:27 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>7.</b>	PA0108	Modal Analysis of Undamped MDOF Vibratory System	<b>3:27-3:39 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>8.</b>	PA0167	Triads in a two-layer fluid involving flexural gravity waves	<b>3:41-3:51 PM</b>	MATHEMATICAL MODELLING (FM13)

## **Contributed Sessions-3**

Session Chair: **Prof. Abhijit Mukherjee**    Parallel Session-5    Session Venue: **A10-2b**

**Date: 15 Dec 2022,    Time: 2:15 PM – 4:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0075	SH-wave in multi-layered poroelastic composite structure based on Eringen's nonlocal elasticity theory	<b>2:15-2:27 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>2.</b>	PA0084	Dynamics of MFC actuated composite plate using reduced models	<b>2:27-2:39 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>3.</b>	PA0090	Analysis of surface wave vibration in FGPM composite: WKB approximation	<b>2:39-2:51 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>4.</b>	PA0150	Study on strength evaluation of Bamboo-composite laminates for its use in low to medium scale structural components	<b>2:51-3:03 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>5.</b>	PA0168	Study of Lightweight Armour Solutions for Shipboard and Marine Structural Applications	<b>3:03-3:15 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>6.</b>	PA0217	FFT-homogenization of elastic and thermo-elastic properties of concrete	<b>3:15-3:27 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>7.</b>	PA0224	Multiscale Simulation and Experimental Approach to Design Carbon Fibre Reinforced Epoxy Polymer Composites	<b>3:27-3:39 PM</b>	MECHANICS OF COMPOSITES (SM7)



## Contributed Sessions-3

Session Chair: **Prof. Sanajy Mittal**    Parallel Session-6    Session Venue: **A10-2c**

**Date: 15 Dec 2022,    Time: 2:15 PM – 4:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0009	Study of a supersonic-sonic patch arising in axisymmetric relativistic transonic flows with general equation of state	<b>2:15-2:27 PM</b>	COMPRESSIBLE FLOW (FM6)
<b>2.</b>	PA0016	Shock wave solution for the planar, cylindrical, and spherically symmetric flows of non-ideal relaxing gas	<b>2:27-2:39 PM</b>	COMPRESSIBLE FLOW (FM6)
<b>3.</b>	PA0019	The formation of a shock wave in a two-dimensional supersonic planar and axisymmetric non-ideal gas flow with the magnetic field	<b>2:39-2:51 PM</b>	COMPRESSIBLE FLOW (FM6)
<b>4.</b>	PA0057	Similarity Solutions for Cylindrical Shock Wave in a Low Conducting Gas Using Lie Group Theoretic Method	<b>2:51-3:03 PM</b>	COMPRESSIBLE FLOW (FM6)
<b>5.</b>	PA0266	Similarity solutions using group invariance method for spherical shock wave in a non-ideal gas under the influence of gravitational and azimuthal magnetic fields: adiabatic and isothermal flows	<b>3:03-3:15 PM</b>	COMPRESSIBLE FLOW (FM6)
<b>6.</b>	PA0181	Effect of Confinement on Liquid-Liquid Droplet Flows in the Presence of Surfactant	<b>3:15-3:27 PM</b>	DROPS BUBBLES AND MULTIPHASE FLOWS (FM8)
<b>7.</b>	PA0253	Characterization of Impinging Liquid Jet Injectors at Subsonic and Supersonic Air-Crossflow.	<b>3:27-3:39 PM</b>	DROPS BUBBLES AND MULTIPHASE FLOWS (FM8)

## **Contributed Sessions-4**

**Session Chair: Dr. Gajendra Singh    Parallel Session-1    Session Venue: A10-1a**

**Date: 16 Dec 2022,    Time: 11:45 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0058	Spatial-averaged conditional stress distribution over hemispherical rough bed	<b>11:45-11:57 AM</b>	AEROSPACE DYNAMICS (FM1)
<b>2.</b>	PA0220	Wake Modelling of Horizontal-axis Wind Turbine Using Sparse Identification of Non-Linear Dynamics (SINDy)	<b>11:57-12:09 PM</b>	AEROSPACE DYNAMICS (FM1)
<b>3.</b>	PA0235	Gurney Flaps effect on the Aerodynamic Performance Augmentation of the Darrieus type Straight-bladed Vertical axis wind turbine	<b>12:09-12:21 PM</b>	AEROSPACE DYNAMICS (FM1)
<b>4.</b>	PA0265	Constitutive modeling of rate-dependent shape memory alloys	<b>12:21-12:33 PM</b>	AEROSPACE DYNAMICS (FM1)
<b>5.</b>	PA0280	Prediction of Drag Force over a Blunt Bicone Model with Accelerometer force balance at high-speed environment using Vibration SDOF Technique	<b>12:33-12:45 PM</b>	AEROSPACE DYNAMICS (FM1)
<b>6.</b>	PA0281	Computational Analysis of Performance and Flow Field of Airfoil in Low Reynolds Number Regime	<b>12:45-12:57 PM</b>	AEROSPACE DYNAMICS (FM1)

## **Contributed Sessions-4**

Session Chair: **Dr. Rajesh Ghosh**      Parallel Session-2      Session Venue: **A10-1c**

**Date: 16 Dec 2022,      Time: 11:45 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0033	Pressure variation along the tumor-infected esophagus from cervical to distal end.	<b>11:45-11:57 AM</b>	BIOMECHANICS (FM4)
<b>2.</b>	PA0046	Influence of dilating amplitude on the two-layered peristaltic driven flow in a catheterized tube: An application to Swallowing disorder.	<b>11:57-12:09 PM</b>	BIOMECHANICS (FM4)
<b>3.</b>	PA0125	Micropolar fluid moving peristaltically through porous media in a tube	<b>12:09-12:21 PM</b>	BIOMECHANICS (FM4)
<b>4.</b>	PA0204	Influence of Porocoat coating structure on bone ingrowth around porous coated implant: A two-dimensional finite element study	<b>12:21-12:33 PM</b>	BIOMECHANICS (FM4)
<b>5.</b>	PA0207	Functionally graded materials reduce the stress shielding in the tibia bone for total ankle replacement	<b>12:33-12:45 PM</b>	BIOMECHANICS (FM4)
<b>6.</b>	PA0158	<a href="#">Thermodynamic Properties of Statistical Associating Molecular Fluids</a>	<b>12:45-12:57 PM</b>	STATICAL MECHANICS (FM14)

## **Contributed Sessions-4**

Session Chair: **Dr. Satyajit Pramanik** Parallel Session-3 Session Venue: **A10-1d**

**Date: 16 Dec 2022, Time: 11:45 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0164	Multiscale modelling of flow and transport through porous media with porosity gradient	<b>11:45-11:57 AM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>2.</b>	PA0100	Numerical Investigation Of Heat Transfer In A Porous Channel with Semi-Circular Heater/ Cooler And Al <sub>2</sub> O <sub>3</sub> -Cu Water-Based Hybrid Nanofluid	<b>11:57-12:09 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>3.</b>	PA0124	Influence of Chemical Reaction on the Stability of Double Diffusive Flow in a Vertical Channel filled with Porous Medium	<b>12:09-12:21 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>4.</b>	PA0190	Effect of Initial Condition on Reactive Radial Viscous Fingering: a Numerical Insight	<b>12:21-12:33 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>5.</b>	PA0196	Velocity Profiles in a Miscible Flow with Time-dependent Injections	<b>12:33-12:45 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
<b>6.</b>	PA0222	Stability of liquid film flow down an inclined anisotropic and inhomogeneous porous plane	<b>12:45-12:57 PM</b>	

## Contributed Sessions-4

Session Chair: **Dr. Sachin S Naik**      Parallel Session-4      Session Venue: **A10-2a**

**Date: 16 Dec 2022,      Time: 11:45 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0115	Riemann problem for a strictly hyperbolic system of conservation laws using self-similar vanishing viscosity method	<b>11:45-11:57 AM</b>	MATHEMATICAL MODELLING (FM13)
<b>2.</b>	PA0174	A Mathematical Model of Plaque Growth in Early Stage of Atherosclerosis	<b>11:57-12:09 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>3.</b>	PA0254	Magnetohydrodynamic nanofluid flow over stretching sheet problem using homotopy analysis method	<b>12:09-12:21 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>4.</b>	PA0258	ON THE STABILITY OF MATHEMATICAL MODELLING OF INFLUENZA	<b>12:21-12:33 PM</b>	MATHEMATICAL MODELLING (FM13)
<b>5.</b>	PA0288	Augmenting Data in Scarce Regions helps Accurately Upscale Water Volume	<b>12:33-12:45 PM</b>	MATHEMATICAL MODELLING (FM13)

## Contributed Sessions-4

Session Chair: **Dr. Shashank Pathak** Parallel Session-5 Session Venue: **A10-2b**

**Date: 16 Dec 2022, Time: 11:45 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0092	Analyse effect of interfacial layer on current and voltage characteristics of Schottky diode	<b>11:45-11:57 AM</b>	EXPERIMENTAL METHOD IN SOLID MECHANICS (SM5)
<b>2.</b>	PA0093	Analyse effect of interfacial layer on current and voltage characteristics of Schottky diode	<b>11:57-12:09 PM</b>	EXPERIMENTAL METHOD IN SOLID MECHANICS (SM5)
<b>3.</b>	PA0095	Study of Ferromagnetic character in Semiconductors	<b>12:09-12:21 PM</b>	EXPERIMENTAL METHOD IN SOLID MECHANICS (SM5)
<b>4.</b>	PA0096	Electronic and Magnetic Properties of Diluted Ferromagnetic Semiconductor	<b>12:21-12:33 PM</b>	EXPERIMENTAL METHOD IN SOLID MECHANICS (SM5)
<b>5.</b>	PA0097	Computation of molecular Dynamics in diffusion of liquid semiconductors	<b>12:33-12:45 PM</b>	EXPERIMENTAL METHOD IN SOLID MECHANICS (SM5)
<b>6.</b>	PA0104	On use of plain washer for prevention of self-loosening in bolted joint subjected to transverse cyclic load.	<b>12:45-12:57 PM</b>	EXPERIMENTAL METHOD IN SOLID MECHANICS (SM5)

## **Contributed Sessions-4**

Session Chair: **Dr. Himanshu Pathak**

Parallel Session-6

Session Venue: **A10-2c**

**Date: 16 Dec 2022, Time: 11:45 AM – 1:00 PM**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

<b>S. No</b>	<b>Paper ID</b>	<b>Paper Title</b>	<b>Time Slot</b>	<b>Topic</b>
<b>1.</b>	PA0243	Molecular dynamics simulation for phase transformation of Ti-50 atom% Nb alloy	<b>11:45-11:57 AM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>2.</b>	PA0261	Deep Learning Model to Predict the Stresses in Polymer Composite Materials	<b>11:57-12:09 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>3.</b>	PA0275	Importance of Separation Gaps for Asymmetric Tall Buildings under Earthquakes	<b>12:09-12:21 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>4.</b>	PA0301	Fabrication and Thermal Characterization of a Coaxial Thermal Probe	<b>12:21-12:33 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>5.</b>	PA0303	"A Customized Low Cost Thermal Probe for Transient Heat Flux Measurement	<b>12:33-12:45 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
<b>6.</b>	PA0132	The study of effect of shear wall on building resting on hill slopes	<b>12:45-12:57 PM</b>	CONTROL STRUCTURES (SM3)
<b>7.</b>	PA0302	Influence of Induction Heating on Residual Stress and distortion of a Plasma Arc Welded Structural Steel Plate	<b>12:57-1:09 PM</b>	CONTROL STRUCTURES (SM3)

## Contributed Sessions (Online):

Session Chair: **Dr. Syed Abbas/Dr. Saswata Adhikari**      Session Venue: **A13 Conference Room**

**Date: 15 Dec 2022**

**Every presentation is 10+2 mins (10 mins for presentation and 2 mins for discussion)**

S. No	Paper ID	Paper Title	Time Slot	Topic
1.	PA0221	Mechanics of Inflatable Space Structures	<b>11:30-11:42 AM</b>	AEROSPACE STRUCTURES (SM1)
2.	PA0047	Identification of Stiffness Parameters of Generalised Multi-Storey Frame Structures in Fuzzy Environment	<b>11:42-11:54 AM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
3.	PA0232	On the natural frequency of shear deformable FGM plates with symmetric and asymmetric porosity distributions	<b>11:54-12:06 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
4.	PA0272	Influence of alloying elements on mechanical deformation of AlCoCrFeNi High-Entropy Alloy	<b>12:06-12:18 PM</b>	COMPUTATIONAL SOLID MECHANICS (SM2)
5.	PA0161	Probabilistic Fracture Mechanics studies using GraFEA and HDMR	<b>12:18-12:30 PM</b>	FRACTURE AND CRACK (SM6)
6.	PA0031	Mechanical Characterization of Iron Flakes Filled Polyurethane Composites.	<b>12:30-12:42 PM</b>	MECHANICS OF COMPOSITES (SM7)
<b>Lunch Break</b>				
7.	PA0037	Free vibration analysis of Functionally Graded Plates with elliptic cutouts	<b>2:15-2:27 PM</b>	MECHANICS OF COMPOSITES (SM7)
8.	PA0068	Free vibration characteristics of braided rotating Plate via 3D Finite Element Method	<b>2:27-2:39 PM</b>	MECHANICS OF COMPOSITES (SM7)
9.	PA0283	Multiple Impact Responses of Bending stiff Composite Plate- A Finite Element Approach	<b>2:39-2:51 PM</b>	MECHANICS OF COMPOSITES (SM7)
10.	PA0048	Modeling of Mexican Hat Wavelet Neural Network with L-BFGS Algorithm for Simulating the Recycling Procedure of Waste Plastic in Ocean	<b>2:51-3:03 PM</b>	ATMOSPHERIC SCIENCES AND OCEANOGRAPHY (FM3)
11.	PA0085	Estimation of the coefficient of damping for sloshing in rectangular tanks using CFD	<b>3:03-3:15 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
12.	PA0144	Assessment of turbulence modeling for gas flow in a two-dimensional plug nozzle	<b>3:15-3:27 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
13.	PA0051	Numerical solutions of fractional Newell-Whitehead-Segel equation in binary fluid mixtures	<b>3:27-3:39 PM</b>	COMPUTATIONAL FLUID DYNAMICS (FM7)
14.	PA0173	The effects of vertical heterogeneity on gravity current flows in porous media	<b>3:39-3:51 PM</b>	FLOW THROUGH POROUS MEDIA (FM10)
15.	PA0175	A Semi-Analytical Approach to Study the Geophysical Korteweg-de Vries Equation with Coriolis Parameter	<b>3:51-4:03 PM</b>	GEOPHYSICAL & ENVIRONMENTAL FLUID DYNAMICS (FM11)