

ESMOC 2024
4th Energy System Modeling and Optimization Conference
December 9-11, 2024, India
Venue: DM Sen Memorial Hall, National Institute of Technology (NIT) Durgapur, India

Conference Presentations

Program Schedule

December 9, 2024				
Registration (8:30-17:00):				
Welcome Reception and Inauguration (9:00-9:40)				
Swapan Paruya, Program Manager, ESMOC 2024 (15min)				
Prof. Arvind Choubey, Director, National Institute of Technology (NIT) Durgapur, India (12min)				
Dr Rajiv K. Tayal, Advisor (retd.), Department of Science and Technology(DST), Govt. of India, New Delhi, India (12min)				
Plenary Talk (9:40-10:25)				
Session Chair: Dr Dipankar Chatterjee, CSIR-CMERI, Durgapur, India				
1	45min	Analysis of entropy generation and activation energy MHD radiative nanofluid flow due to Brownian motion and thermophoresis	Prof. Dulal Pal	Visva-Bharati University, India
High Tea (10:25-11:10)				
TRACK-1: Theoretical and Experimental Fluid Mechanics and Heat Transfer				
Session Chair: Prof. Dulal Pal, Visva-Bharati University, India				
Venue:				
Time: 11:10-12:30				
2	40min	Keynote Talk Viscous fluid flow and heat transfer over a still go-water nanofluid in presence of shear	Prof. Swati Mukhopadhyay	The University of Burdwan, India
3	25min	Invited Talk Dynamics of nonisothermal thin liquid film flow on the stationary and moving inclined plan	Prof. Ahmad Tariq Jameel	Aligarh Muslim University, India

4	15min	Contributed Talk A similarity analysis for dynamics of bubble growth in pool boiling	Swapan Paruya	NIT Durgapur, India
<p style="text-align: center;">TRACK-3: Computational Fluid Dynamics & Heat Transfer</p> <p>Session Chair: Swapan Paruya, NIT Durgapur, India Venue: Time: 12:30-13:50</p>				
5	40min	<p style="text-align: center;">Keynote Talk</p> <p>Piezoelectric energy harvesting from flow induced vibration of flexible flapper</p>	Prof. Sunetra Sarkar	IIT Madras, India
6	25min	<p style="text-align: center;">Invited Talk</p> <p>Hydrodynamic analysis of AUV hull using a 3-DOF model and CFD approach</p>	Dr Dipankar Chatterjee	CSIR-CMERI, Durgapur, India
7	15min	Contributed Talk Numerical estimation of aerodynamic forces and stability analysis of 120mm mortar shell	Sourabh Khambra	CSIR-CMERI, Durgapur, India
8	15min	Contributed Talk Semi-solid processing of A356 alloy using a shear cooling roll process: a comprehensive CFD study	Debdip Chakraborty	CSIR-CMERI, Durgapur, India
9	15min	Contributed Talk Effect of elasticity on the viscoelastic fluid flow over circular and square cylinders at low Reynolds numbers	Om Prakash Pandit	CSIR-CMERI, Durgapur, India
Lunch 13:50-14:20)				
Plenary Talk (14:20-15:05)				
Session Chair: Dr Rajiv K. Tayal, (retd.) DST, Govt. of India, New Delhi, India				
10	45 min	Crucial reductions by metal hydride bonds sourced from water splitting for producing sustainable fuel: a theoretical perspective	Prof. Ankan Paul	Indian Association for the Cultivation of Science(IACS), Calcutta, India
Tea Break (15:05-15:20)				

TRACK 5: Energy Materials				
Session Chairs: Prof. P. Ray, University of Calcutta, India and Prof. Ankan Paul, IACS, Calcutta, India Venue: Time: 15:20-16:30				
11	40min	Keynote Talk Synthesis of some nanostructured materials for development of random lasers	Prof. Pathik Kumbhakar	NIT Durgapur, India
14	15min	Contributed talk Molecular dynamics studies unravelling the effects of niobium content on the young's modulus of nanostructured ZR-NB alloys for biomedical applications	S. Banerjee	NIT Durgapur, India
16	15min	Contributed talk Numerical analysis of electro-spray with leaky dielectric fluid	Braj Bhushan	NIT Durgapur, India
Conference Dinner (19:30-21:30)				
December 10, 2024				
Registration (8:30-17:00)				
TRACK-6: Multiphase Flow				
Session Chair(s): Prof. Sunetra Sarkar, IIT Madras, India Time: 9:00-10:10				
19	40 min	Keynote Talk (online) Boiling Behaviour of Nanofluids and Nano-textured Surfaces	Prof. Pradyumna Ghosh	IIT(BHU), Varanasi, India
20	15min	Contributed Talk Numerical investigation of water sloshing in a tank with a flexible solid aluminium baffle	Sandip Majumdar	Elite college of Engineering, Sodepur, India
21	15min	Contributed Talk Thermal collapse of a stationary vapor bubble in a subcooled liquid	Koustav Roy	NIT Durgapur, India
Tea Break (10:10-10:30)				
TRACK-7: Nuclear Science and Engineering				
Session Chairs: Dr Biswanath Sen, Indira Gandhi Centre for Atomic Research, Kalpakkam, India Venue: Time: 10:30-12:10				
26	40min	Keynote Talk Performance Issues of Thermosyphons in the Presence of Non-	Dr Biswanath Sen	Indira Gandhi Centre for Atomic Research,

		Condensable Gases Relevant for Nuclear Applications		Kalpakkam, India
27	25min	Invited Talk Exploring the Fascinating Structure of the Atomic Nucleus Using Gamma Ray Spectroscopy	Dr Tarkeshwar Trivedi	University of Allahabad, India
28	20min	Invited Talk Simulation studies of tissue equivalent 3-D polymer gel dosimeter	Dr Soumik Das	NIT Durgapur, India
29	15min	Contributed Talk A revisit to "vapour bubble collapse in isothermal and nonisothermal liquid"	Swapan Paruya	NIT Durgapur, India
Tea Break (12:10-13:00)				
Online Invited Talks				
Session Chair: Prof. Ahmad Tariq Jameel, Aligarh Muslim University, India				
Venue: Time: 14:00-15:15				
30	25min	Invited Talk (TRACK-7) A Study of Semi-Rigid Joints in Pre-Engineered Buildings under Progressive Collapse	Prof. Akil Ahmed	Jamia Millia Islamia, New Delhi, India
Concluding Session (15:30-15:59)				
December 11, 2024				
Sightseeing to Shantiniketan				

Note:

1. Speakers, Presenters and Session Chairs may contact to Swapna Paruya, Program Manager, ESMOC 2024 at **esmoc2013@gmail.com**
2. Presenters and Session Chairs (**Foreign Countries**) may use the link <https://meet.google.com/gda-jasf-pet> for attending the technical sessions.

