

# CENTURION UNIVERSITY OF TECHNOLOGY & MANAGEMENT, ODISHA NATIONAL WEBINAR

on

## "NUMERICAL PREDICTION OF MICROSCALE FLUID FLOW AND HEAT TRANSFER"

#### 22nd December 2021

#### **Resource Person:**

Dr. Manoj Kumar Moharana.
Assistant Professor,
Department of Mechanical Engineering,
IIT, Rourkela

No. of Participants: 50

#### **Organized**

By

#### Department of Mechanical Engineering and Center for Computational Mathematics, Centurion University of Technology and Management

**Coordinator**: Prof. Manas Ranjan Padhi, Asst. Professor, Mechanical Department, Centurion University

**Time and duration**: 2-4 PM (2 Hours)

Date: 22.12, 2021

Topic: Numerical prediction of microscale fluid flow and heat transfer

Resource Person: Dr. Manoj Kumar Moharana, Assistant Professor Grade I, Department of

Mechanical Engineering, National Institute of Technology Rourkela

No of Participants: 50 participants from different schools of Centurion University of

Technology and Management had registered and attended this webinar.

#### **Objectives:**

- To predict accurate fluid flow and heat transfer effects in micro channels under H2 boundary condition.
- To study the effects of structured roughness on pressure drop and heat transfer.

The program was conducted via Zoom.

#### Agenda

- 1) Welcome address by Prof. Manas Ranjan Padhi
- 2) Introduction of our Resource Persons by Prof. Manas Ranjan Padhi

- 3) Session taken by Dr. Manoj Kumar Moharana
- 4) Question and Answer Session
- 5) Vote of Thanks by Prof. Manas Ranjan Padhi

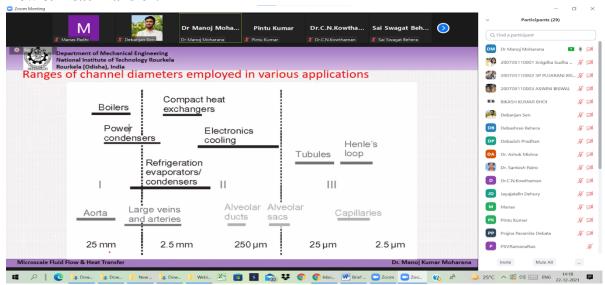
#### **Resource Person Profile:**

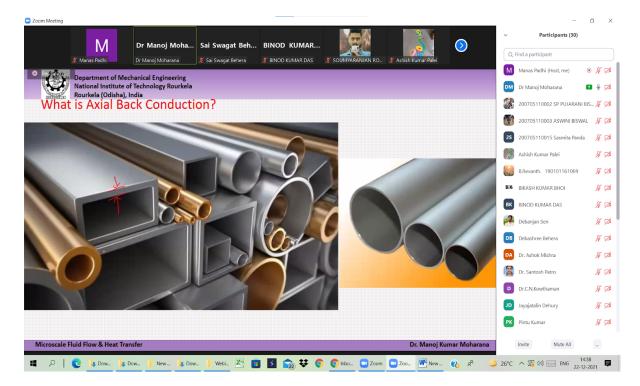
Dr. Manoj Kumar Moharana is working as Assistant Professor in Mechanical Engineering in National Institute of Technology Rourkela. He has completed his B.Tech in Mechanical Engineering from College of Engineering & Technology, OUAT and M.Tech in Thermal and & Environmental Engineering, IIT Kharagpur. He has completed his PhD. in Mechanical Engineering, IIT Kanpur. He has around 20 years of teaching experience and 10 years of research experience. He has published 21 papers in journals and presented papers in 41 national and international conferences. He is a member of reputed Professional Organizations. His research area includes Computational fluid dynamics, Micro-scale heat transfer, Cryogenic heat transfer, Two-phase heat transfer and Renewable energy systems.

#### **Outcome**

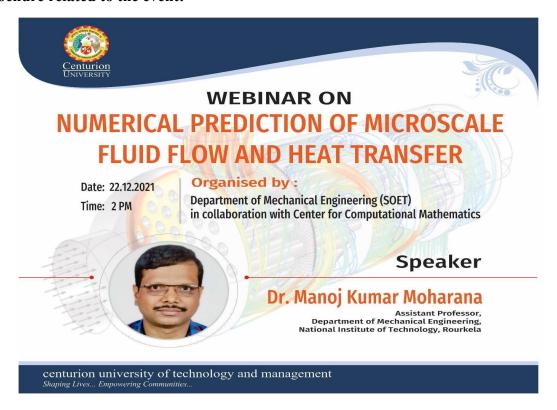
Through the webinar, it can be interpreted that, although the results are seen as relevant in microscale applications, they are applicable to any sized channels. Depending on the numeral results obtained for a wide range of aspect ratios, generalized correlations for fully developed laminar Nusselt numbers as a function of channel aspect ratio are discussed. This information can provide better understanding and insight for participants into the transport processes in the microchannels.

### Photographs during Webinar conducted on Numerical Prediction of Microscale Fluid Flow & Heat Transfer:





#### **Brochure related to the event:**



### **Participant List**

	I			
Name	Faculty/Student	Name of University	Name of School	Department
Mukundjee Pandey	Faculty	Centurion University of Technology and Managemer		Aerospace
Sujit Mishra	Faculty	Centurion University of Technology and Managemer		Mechanical
Gyanendra Kumar Mishra	Faculty	Centurion University of Technology and Managemer		Physics
Saugat kumar Shaw	Student	Centurion University of Technology and Managemer		Mechanical Engineering
B PAVAN KALYAN	Student	Centurion University of Technology and Managemer		Mechanical
Debashree Debadatta Behera	Faculty	Centurion University of Technology and Managemer		Mechanical
Debanjan Sen	Student	Centurion University of Technology and Managemer		Mechanical Engineering
Shiuli Patra	Student	Centurion University of Technology and Managemer	SOET	Aerospace Engineering
Sibasundar Mirda	Student	Centurion University of Technology and Managemer	SOET	Mechanical
Subhashree panda	Student	Centurion University of Technology and Managemer	SOAS	Department of Applied science
Shubham Chakraborty	Student	Centurion University of Technology and Managemer		Mechanical Engineering
Jayajatalin Dehury	Student	Centurion University of Technology and Managemer		Applied mathematics
Aswini Biswal	Student	Centurion University of Technology and Managemer	School of Applied Science	Mathematics
Soumya Ranjan Rout	Student	Centurion University of Technology and Managemer	Centurion university of technology and management	Mathematics
Ashish Kumar Palei	Student	Centurion University of Technology and Managemer	Centurion University, Bhubaneswar	MSc Applied Physics
Binod Kumar das	Student	Centurion University of Technology and Managemer	Soas	Mathematics
T.prasanth kumar	Student	Centurion University of Technology and Managemer	School of engineering and technology	Mechanical
Dillip Mohanta	Faculty	Centurion University of Technology and Managemer	School of Engineering	Mechanical
Bikash Kumar Bhoi	Student	Centurion University of Technology and Managemer		M.Sc. Physics
Sasmita Panda	Student	Centurion University of Technology and Managemer		M.sc Mathematics
Saka sonali	Student		Centurion University of technology and management	Aerospace
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Sujeet kumar padhi	Student	Centurion University of Technology and Managemer	Centurion University of Technology and Managemen	School of Applied Sciences
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Anwesha Dalai	Student	Centurion University of Technology and Managemer	2402	Msc .Mathematics
Suryakanta Rout	Student		Centurion university of technology and manahement	
		Centurion University of Technology and Managemer		
Shailesh Hessa	Student			Mechanical Mechanical on dispersion
Pintu Kumar	Student student	Centurion University of Technology and Managemer		Mechanical engineering mathematics
sp pujarani biswal	student	Centurion University of Technology and Managemer	Applied science	matrialis
Niyati Nitipragnya	Student	Centurion University of Technology and Managemer	Centurion University Of Technology And Managemer	Msc.in applied mathematics
SHASWAT SUBHANKAR SAHU	STUDENT	Centurion University of Technology and Managemer	SCHOOL OF APPLIED SCIENCES	MATHEMATICS
Santosh jena	Student	Centurion University of Technology and Managemer	School of applied science	SOAS
B.Revanth	Student	Centurion University of Technology and Managemer	school of engineering and technology	Mechanical
Subasini Sahu	Student	Centurion University of Technology and Managemer		Mathematics
Chhatra pal	Student	Centurion University of Technology and Managemer		Mechanical engineering
DWITY SUNDAR ROUT	Student	Centurion University of Technology and Managemer		Physics
Rakesh swain	Student	Centurion University of Technology and Managemer	SOET	Mechanical
Khageswar V	Faculty	Centurion University of Technology and Managemer	School of engineering and technology	Mechanical
Lalatendu rout	Student	Centurion University of Technology and Managemer	School of engineering and technology	Mechanical
Vijay Miditana	Faculty	Centurion University of Technology and Managemer		Mechanical
Prajna Paramita Debata	Faculty		centurion university of technology and management	
B. Jyoti Prakash	Student	Centurion University of Technology and Managemer		Mechanical
Suryakanta Rout	Student		Centurion university of technology and management	
Somerik Sen	Student		Centurion University of Technology and Managemen	
Manas ranjan sahoo	Faculty	Centurion University of Technology and Managemer		Mechanical engineering
M d jawed Akhtar	Student		Centurion University of technology and management	
Ramesh baskey	Student		Centurion University of Technology and Managemen	
Sahil Dastgir Mulla	Student	Centurion University of Technology and Managemer		Mechanical
oanii Dasegi Wulla Dr PSVRamanaRao	Faculty		Centurion University of Technology&Management, Vi	
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Sujit Kumar Rout Snigdha Sudha Mishra	Student	Centurion University of Technology and Managemer		Mechanical M.Sc. Mathematics
	Student	Centurion University of Technology and Managemer		M.Sc. Mathematics
Ashutosh Narayan Routray	Student	Centurion University of Technology and Managemer	pscrioii or applied sciences	Mathematics

Prabhat K. Pattnaik FDP Coordinator

Dr. Prasanta Ku. Mohanty Dean Academic