WEBINAR

on

Computational Fluid Dynamics and Heat Transfer Analysis in LFR Solar Thermal System

Date: 4th July 2022

Resource Person:

Dr. Sudhansu Sekhar Sahoo,

Asso. Prof. Dept. of Mechanical

Odisha University of Technology and Research (OUTR), Bhubaneswar

No. of Participants: 31

Brief Profile of Resource Person:

Dr. Sudhansu Sekhar Sahoo, presently working as an Associate Professor in the Department of Mechanical Engineering at Odisha University of Technology and Research (OUTR), Bhubaneswar. Dr. Sahoo obtained his B.E. in Mechanical Engineering from UCE Burla and M.Tech in Thermal Engineering from IIT Delhi. He received his Ph.D. in Renewable Energy specialization from IIT Bombay. His research interests include Solar Thermal, Computational Fluid Dynamics, Multiphase flow, Turbomachinery, Energy-Exergy-Economics analysis, Energy optimization, etc. He has guided 2 Ph.D. students and 26 M.Tech students till now. He has completed 2 research projects and continuing 2 more projects. He has filed ten numbers patents and published more than 50 papers in national and international journals. He worked as reviewer for many international journals. He is the life member of various professional bodies like the Solar Energy Society of India, Fluid Mechanics and Fluid Power, Institution of Engineers.

About the session:

Computational Fluid Dynamics (CFD) is a simulation tool that uses numerical analysis and data structures to analyse and solve problems that involve fluid flows. CFD is applied to a wide range of research and engineering problems in many fields of study and industries, including aerodynamics and aerospace analysis, hypersonics, weather simulation, natural science and environmental engineering, industrial system design and analysis, biological engineering, fluid flows and heat transfer, engine and combustion analysis, and visual effects for film and games. A methodology has been presented related to entropy generation due to forced convection boiling in long absorber tubes used in linear Fresnel reflector (LFR) solar

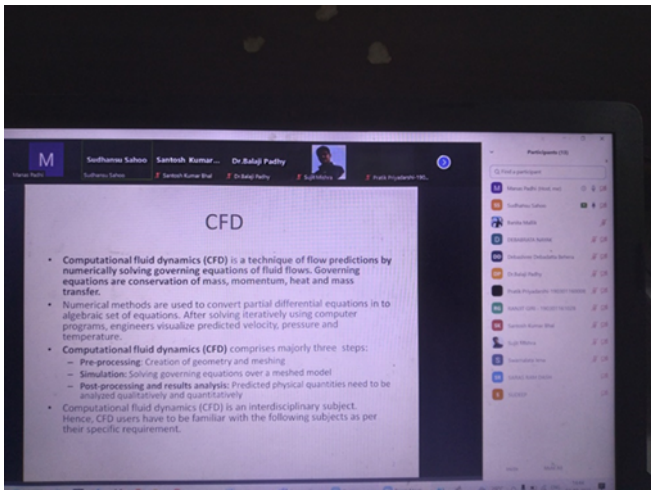
thermal system. Variable heat flux has been applied on the tube which replicates the scenario for above-mentioned tubes and local entropy generation has been obtained for various parameters.

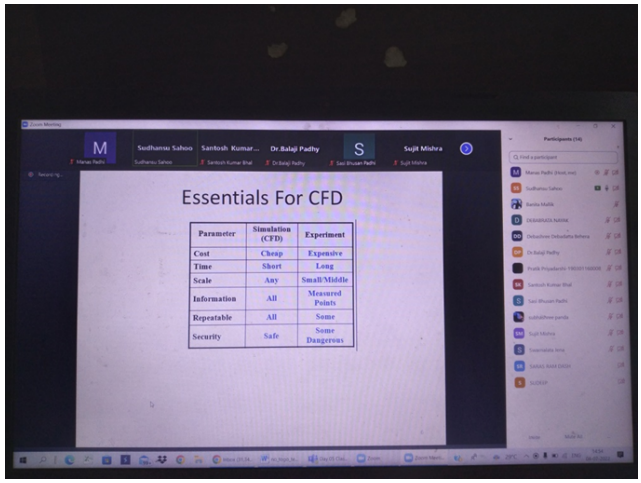
Objective

- To understand the applications of CFD.
- To obtain temperature distribution and heat flux in linear Fresnel reflector (LFR) solar thermal system using Ansys Fluent.
- To calculate entropy generation in linear fresnel reflector (LFR) system.

Outcome

- The session enhances the knowledge of the faculties and students on the applications of CFD to solar thermal collector.
- It will help them to predict the performance of thermal collector system.
- They can calculate the entropy generation associated with any type of thermal collector.





Centurion University

Webinar on

COMPUTATIONAL FLUID DYNAMICS AND HEAT TRANSFER ANALYSIS IN LFR SOLAR THERMAL SYSTEM

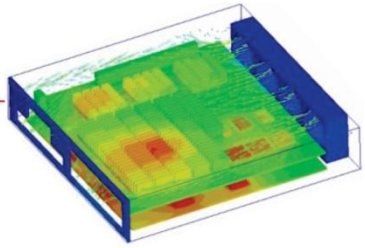
Organised by
Centre for
Computational Mathematics

In association with
Department of
Mechanical Engineering, SoET

4 July 2022 from 2:30 to 4:00 PM

Speaker

Dr. Sudhansu Sekhar Sahoo
Associate Professor
Dept. of Mechanical Engineering
Odisha University of Technology
and Research (OUTR), Bhubaneswar.



Convener
Dr. Ashok Misra

Coordinator
Mr. Manas Ranjan Padhi

Join Zoom Meeting

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Meeting ID: 783 4952 5540

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PARTICIPANT LIST:

1	RANJIT GIRI	Student
2	Sujit Mishra	Faculty
3	Gedela Sridevi	Faculty
4	Nilanchala Patra	Faculty
5	Dr.Bhairaba Kumar Majhi	Faculty
6	Debashree Debadatta Behera	Faculty
7	Sachidananda biswal	Student
8	Debabrata nayak	Student
9	Dr. Sasi Bhusan Padhi	Faculty
10	Laxmidhar Das	Student
11	Saras Ram Dash	Student
12	Santosh Kumar Bhal	Faculty
13	Dr Tumbanath Samantara	Faculty
14	Dr. Goutam Kumar Mahato	Faculty
15	Dr. Swarnalata Jena	Faculty
16	Dr.Banitamani Mallik	Faculty
17	Somnath kumar	Student
18	Suraj Kumar	Student
19	Sharad Kumar Urma	Student
20	Rajesh Pradhan	Student
21	Ashok Misra	Faculty
22	ARJIT KUMAR ROUL	Student
23	Pratik Priyadarshi	Student
24	Mohit Upadhyay	Student
25	Raunak kumar	Student
26	Sudeep Singh	Faculty
27	Dr.Balaji Padhy	Faculty
28	MANAS RANJAN PADHI	Faculty

29	SMRUTI RANJAN NAYAK	Faculty
30	Tamanna Meher	Student
31	Samresh Mahto	Student

Manas Ranjan Padhi

FDP Co-ordinator