PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement

facilitated by the Institute of Smart Structures and Systems

Module PMRF-ISSS015

Basic understanding of Ansys FLUENT (*User Defined Function*).

Name of the PMRF student

Akshay Sharma

PhD Scholar
Indian Institute of Science

Course Relevant To:

UG/PG students of Mechanical Engineering,
Aerospace / Aeronautical Engineering,
Production/Industrial Engineering,
Automobile/Naval/marine Engineering etc.

Faculty coordinator

Dr. Maligi Anantha Sunil
B.M.S. College of Engineering.

Online session coordinator

Mr. Nagarjun.P. Kulkarni
B.M.S. College of Engineering.

S. V. Garimella et.al. "Transport mechanisms during water droplet evaporation " IJHMT 152 (2020): 119524.

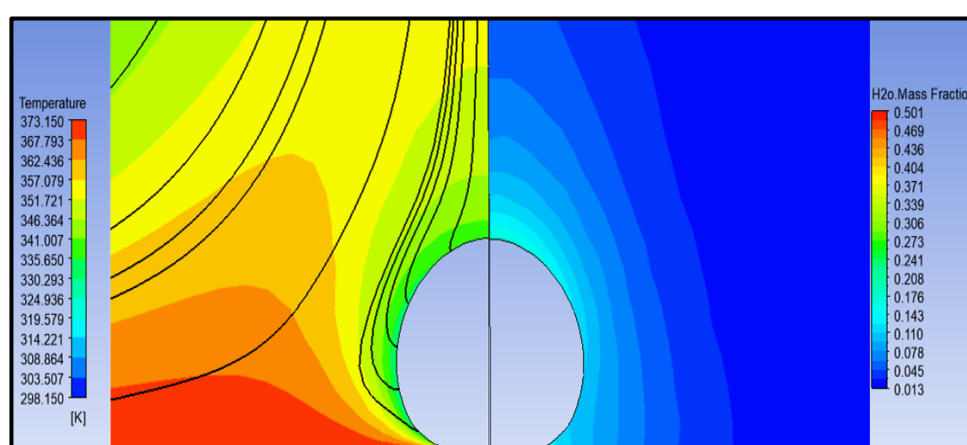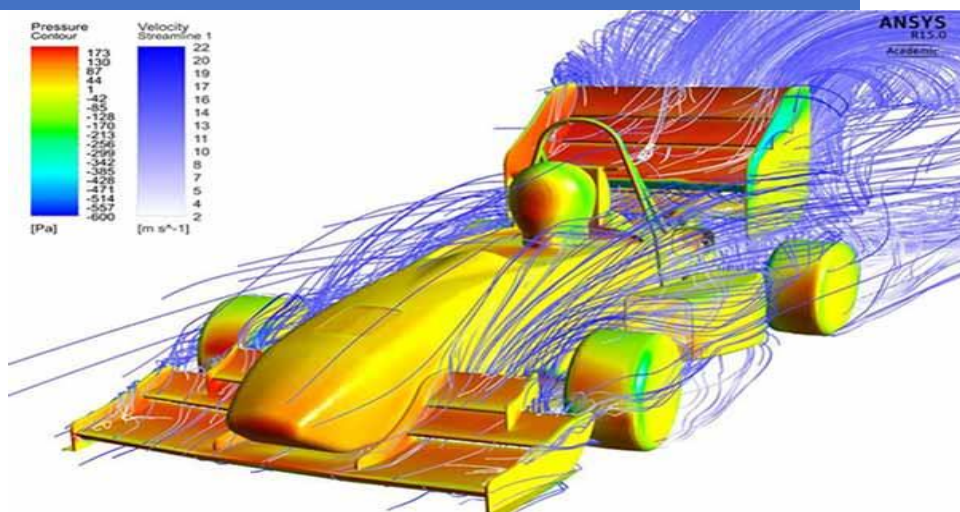### Details of the content of the module

Curiosity for any Engineering/Science student is always acting as the primary foundation for their future. And when they get the answer for their curiosity (problem), it acts as one of best satisfaction to obtain.

We are surrounded by many problems which involve the flow of fluid, and to get their understanding, an excellent subject, "**Computational Fluid Dynamics-CFD**", is developed.

Ansys FLUENT is a software package that significantly helps in solving these problems. The course exploits the power of "**USER DEFINED FUNCTION-UDF**" writing involved in Ansys FLUENT.

The course is divided into following modules:

- Introduction to course content (**1hr**)

- Discussion to improve familiarity with user interface of Ansys FLUENT. (**2hrs**)

- Brief discussion on CFD and understanding of finite volume method (FVM) on which FLUENT works. (**4hrs**)

- What is User Defined Function-UDF? (**2hrs**)

- Demonstration of UDF working by basic examples. (**6hrs**)

- Discussion on various essential predefined MACROS from Ansys FLUENT. (**4hrs**)

- Demonstrating the use of UDF (Ansys FLUENT) by reproducing results from research paper available in literature (**8hrs**)

Schedule of the Module

Starting date: 19th June, 2021.

Class schedule: 3:00 pm to 5:00 pm.(Every Wednesday)

Ending date: 1st September, 2021

Meeting link : tinyurl.com/fluentansys

(Lectures will be held on Microsoft Teams)

Contact email ID: isss.forum@gmail.com

Registration link:
https://forms.gle/rwyRaFWkkSLZEo8k6