PMRF-ISSS Teaching Programme

Prime Minister Research Fellowship students' teaching requirement facilitated by the Institute of Smart Structures and Systems

Module PMRF-ISSS016/2024

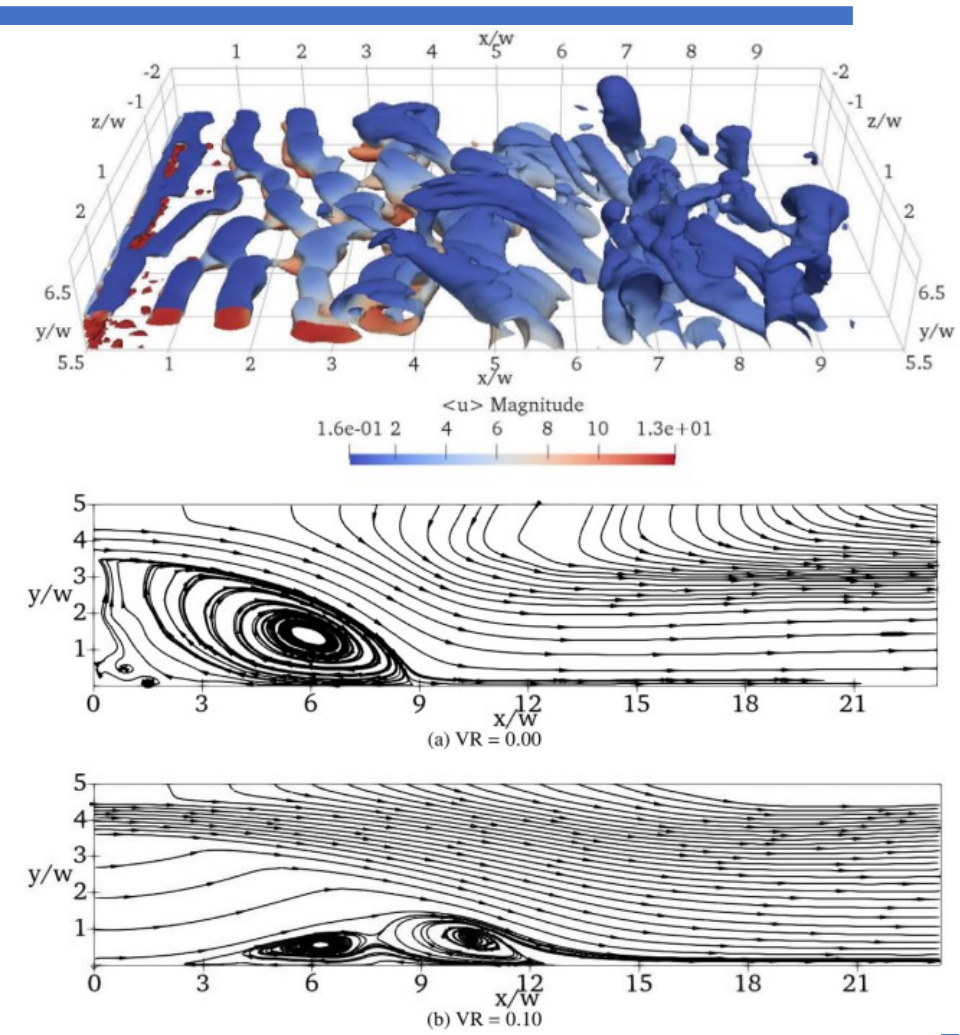
Computational Heat and Fluid Flow

Name of the PMRF student

Aritra Roy Choudhury

Required background of the students taught

Undergraduate fluid dynamics, basic programming skills (preferably in C), undergraduate level mathematics



Details of the content of the module

This course aims to help students understand and solve problems related to the behaviour of partial differential equations. It introduces the finite volume method as a tool for solving these problems.

1) Introduction to Governing Equations

2) Overview of Numerical Methods

3) Steady/Unsteady Diffusion Problems

4) Convection Diffusion Problems

5) Linear System of Equation Solvers

6) Incompressible Flow Field Calculation

Throughout the course, students will not only learn theoretical concepts but will also engage in hands-on activities such as manual calculations on basic patterns. Additionally, they will develop programming skills to implement the discussed methods in computer programs.

Schedule of the module

Course duration: 1/07/24 to 03/10/24 (tentative)

Lecture: Tuesday and Friday. 12:00 PM to 01:30 PM

Tutorial/Discussion: 3 hour per week

(time - decided later)

Meeting link : Will be shared later

Link: https://forms.gle/UR9tmgJLp6nLeGXS7

Contact email ID: isss.forum@gmail.com

Registration link: