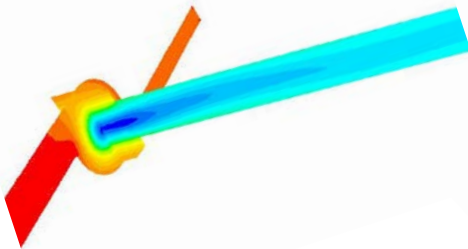
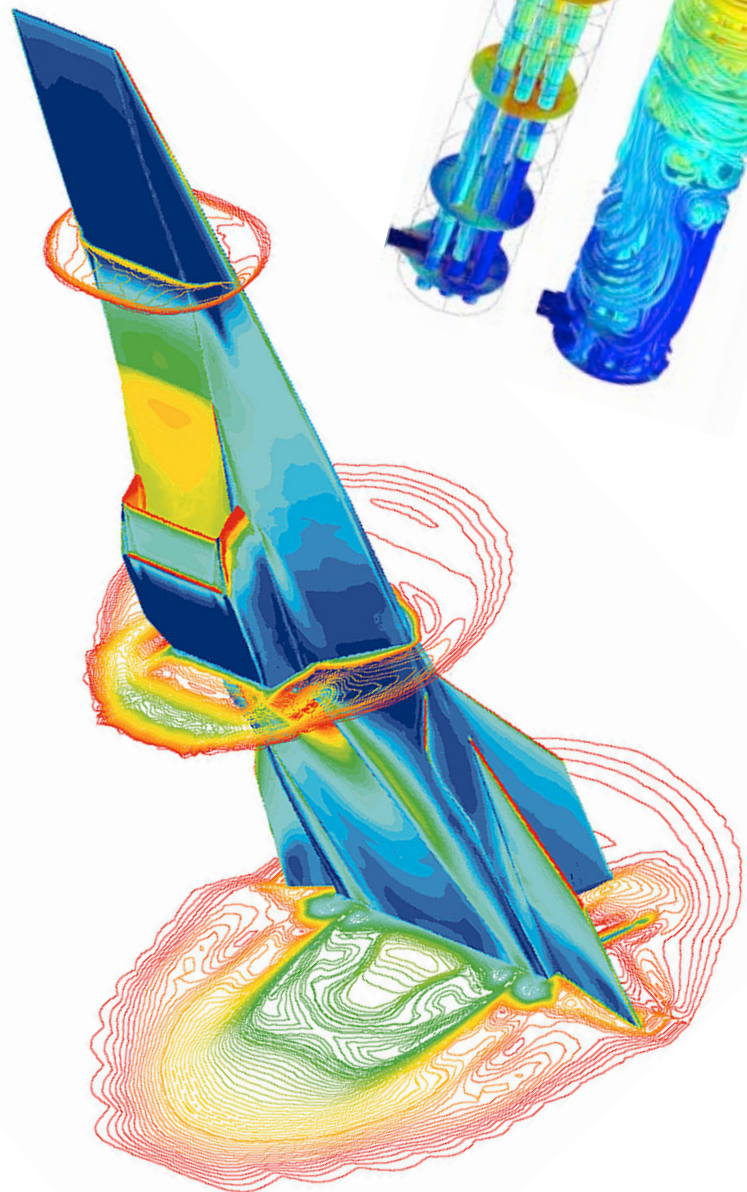
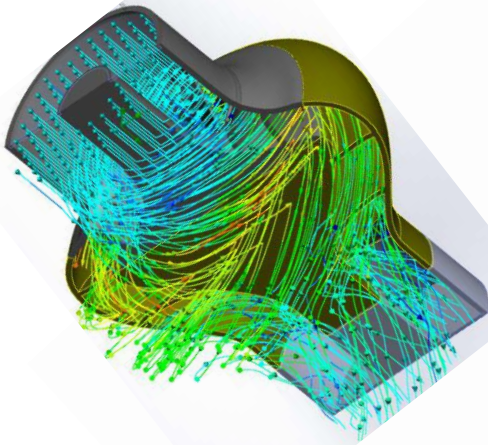


21<sup>st</sup>-26<sup>th</sup> May 2018

PSG COLLEGE OF TECHNOLOGY

Department of Mechanical Engineering  
Coimbatore – 641 004

# Course in Computational Fluid Dynamics



## PSG College of Technology

PSG College of Technology, started in year 1951 by PSG & Son's Charities Trust, is an AICTE approved autonomous institution affiliated to Anna University, Chennai and ISO 9001 certified. Most of the programmes have been accredited by National Board of Accreditation (NBA). PSG College of Technology believes in creating and disseminating knowledge and skills in core and frontier disciplines through innovative educational programmes, industrial training, research & consultancy and developing a new cadre of professionals with a high level of competence, deep sense of social commitment and ethics. PSG College of Technology has collaborative arrangements with industries, research laboratories and foreign universities in various areas of joint academic programmes, research and training.

### Department of Mechanical Engineering

The department is one of the first few that was started during the inception of the college in the year 1951. New courses were introduced subsequently and the existing ones were restructured to reflect the state of the art. All the laboratories in the department are approved for carrying out research leading to Ph.D. degree (Full time and Part time) / M.S. (by research) degree by Anna University, Chennai. The department offers consultancy in design, manufacturing and testing of products as per BIS specifications. Right from the start, thrust has been given to practical and industry oriented research and development. This has ensured continuous interaction with industry.

### CFD Course

The Computational Fluid Dynamics (CFD) course provides a solid background for the participants to apply CFD methods for design, analysis and engineering applications in flow problems. This course has been designed to focus on different fields of application like aerospace, turbo machinery, multi-phase flow, heat transfer, cavitation and fluid-structure interaction problems. The CFD course is planned with 10 modules and few industry specific problems to expose the participants on real time solutions. This exposure provides an opportunity for the participants to deepen their knowledge.

This course is suitable for graduates and professional engineers who are interested to pursue an industrial or research career in the rapidly growing field of Computational Fluid Dynamics.

### Course Content

#### Theory

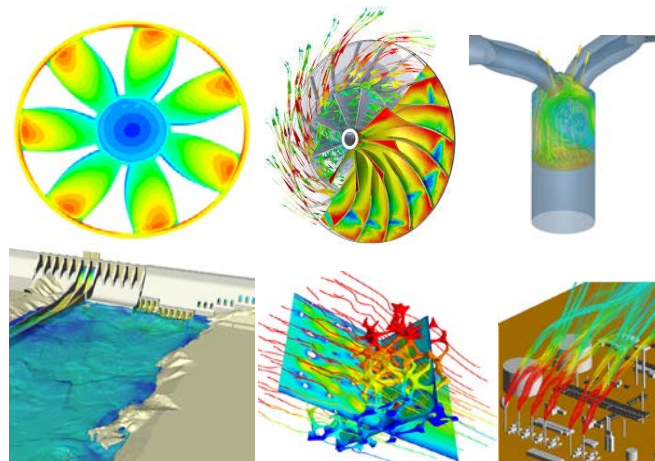
- Introduction to CFD
- Governing Equations
- CFD Techniques

#### CFD Tool

- Preprocessing
- Processing
- Post processing

#### Tutorials

- Internal Flow
- External Flow
- Turbulent
- Heat Transfer
- MRF Model
- Multiphase Flow
- Fluid-Structure Interaction
- Dynamic Mesh
- UDF Model
- Porous, Species & Radiation Model
- Fan & Pump Industrial Problems



### Research @ PSG Tech

#### Facilities Available

- A seminar hall capable of accommodating 30 students
- A CFD Lab with a seating capacity of 35 equipped with LCD projection



### CFD Seminar Hall & Lab

#### Course Coordinator

**Dr.T.Prabu**  
Professor  
Department of Mechanical Engineering  
PSG College of Technology

# Course Schedule

Date / Timing	Session 1 9.00 A.m. -10.30 A.m.	10.30 – 10..50	Session 2 10.50 A.m. -12.30 P.m.	12.30– 1.30	Session 3 1.30 P.m. - 3.10 P.m.	3.10 – 3.30	Session 4 3.30 P.m. - 5.30 P.m.
21-05-18	Introduction to Computational fluid dynamics		Ansys Workbench (Mesh, Fluent& CFX solver setup, Post processing module)		Steady & Transient Problem (Fluent)		Boundary Condition (Fluent)
22-05-18	Multi-Phase Model (Volume of fluid-Fluent)		Multi-Phase Model (Mixture & Eulerian - Fluent)		Radiation Model (Surface to Surface, Discrete ordinates – Fluent )		Species Model (Species Transport, Combustion)
23-05-18	Lecture - 1	Tea Break	Sliding Meshing (Fluent)	Lunch Break	Dynamic Meshing (Fluent)	Tea Break	Test - 1
24-05-18	Flow over Aero foils		Axial Fan Simulation (MRF – Fluent)		Cavitation		Submersible Pump Simulation
25-05-18	Porous Media		User define Function		Fluid and Structural Interaction		Parametric Analysis for Geometry, Mesh Study, Solver Setup, Post Processing
26-05-18	Test 2		Test 2		Interaction Session		Concluding speech and Certificate distribution

## Key Facts

### Entry requirements

- This course is aimed at students, Research scholars & engineers who would like to gain an insight into this technology and some of its vast range of capabilities.

### Duration

- Six Days

### Start date

- 21-05-2018

### Number of Seats

- 30 Members Only

### Fee

- Rs. 10,000+18% GST Tax Fees should be paid by DD/Cash. The DD should be in favor of "PSG CNCE" payable at Coimbatore.

### Contact Person

Mr. D. Immanuel  
Research Fellow  
+91 86754 75455, +91 98947 11831  
Email: energy.psg@gmail.com  
www.psgtech.edu