



A. J. Institute of Engineering and Technology

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Kottara Chowki, Mangaluru - 575 006

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Report of Technical Talk
On
Computational Fluid Dynamics

AJIET Seminar Hall, Mangalore

21/05/2018

Organized by

Department Of Mechanical Engineering

Guest Speaker: Dr. Ranjith Maniyeri

Assistant Professor,

Department of Mechanical Engineering,

NITK, Surathkal

Date of the Technical Talk :	21/05/2018
Venue:	A J I E T, Seminar Hall 1st Floor, Mangalore
Time:	11AM-12:30PM
Topic :	Computational Fluid Dynamics
Coordinator:	Mr. Vijay Kumar H K
Faculty Present:	Mr.Prashanth D A Mr.SV.Kamath Mr.Nithin Shet Mr.Chandahas Bekal Mr.Prakhyath Jain
Participants:	II year Students of Mechanical Engineering and Civil Engineering
Source of funding:	Management, A.J Institute of Engineering and Technology, Mangalore.

Report

Department of Mechanical Engineering, AJIET, Mangalore has conducted a Technical Talk on “Computational Fluid Dynamics” was held at Seminar hall, on May 21, 2018.

Dr.Ranjith M, Assistant Professor, Department of Mechanical Engineering,NITK, Surathkal was Guest Speaker.

The students of second year Mechanical Engineering and Civil Engineeringattended the talk.

Mr. Prashanth D A. Assistant Professor and Incharge HOD welcomed the Speaker with a bouquet

Mr.NithinShet Assistant Professor and Co-coordinator of Student Association shared the dais with Mr.Prashanth D A Incharge HOD of Mechanical Engineering.

Ms.Anusha Student of II year Mechanical Engineering was Master of Ceremony she proposed Welcome Speech

Mr.Ashit Princeton Student of II year Mechanical Engineering introduced the Guest Speaker to the audience.

Speaker shared his knowledge with the students on the following topics of CFD;

- Introduction to computational fluid dynamics (CFD)
- Overview to the use of modern CFD software, including geometry building, meshes generation, solution techniques, and flow visualization.
- Basic principles of fluid mechanics.
- The investigation of various fluid flow systems which aimed at a deeper understanding of the basic principles of fluid mechanics.
- Prerequisites for CFD.
- Involvements with some of the difficulties that one may encounter in CFD, such as geometry simplification, mesh problems, convergence problems, multiple solutions, etc.
- On analysis a flow field to determine various quantities of interest, such as flow rates, heat fluxes, pressure drops, losses, etc., using flow visualization and analysis tools.
- The type of fluid flow that is occurring in a particular physical system and to use the appropriate model equations to investigate the flow.
- Simplification a real fluid-flow system into a simplified model problem, to select the proper governing equations for the physics involved in the system, to solve for the flow, to investigate the fluid-flow behavior, and to understand the results.
- Suggested the background needed for the appropriate use of commercial CFD packages.
- Outline to the methods and analysis techniques used in CFD.
- Brief out on the use of commercial CFD codes to analyze flow and heat transfer in problems of practical engineering interest.
- The emphasis on the use of CFD as a virtual fluid laboratory.
- The process of developing a geometrical model of the flow, applying appropriate boundary conditions, specifying solution parameters, and visualizing and analyzing the results.
- Application of CFD methods e.g. boundary conditions, turbulence modeling etc.in commercial CFD codes.
- Applications of CFD analysis to real engineering designs
- Describe the major theories, approaches and methodologies used in CFD
- Advantages and limitations of CFD
- The factors limiting the accuracy of CFD solutions.

- Briefed out significant level of experience required in the use of modern CFD software for the analysis of complex fluid-flow systems.
- Briefed out the future Scope in CFD domain after the completion of Bachelors degree to the students

Question and Answer session was held at the end of the talk which helped students to clarify their queries.

Mr.Vijaykumar honored the Guest speaker with a memento as a token of gratitude.

Mr.Punith Raj Naik, Student of II year Mechanical Engineering, proposed the Vote of thanks by expressing the gratitude to Management of AJIET, Principal Dr.Shantharam Rai C and Head of Mechanical Engineering Dept., Dr.Rajesh Rai P for their support and encouragement to conduct this technical talk

Snap Shots



Mr.Prashanth D A and Mr.Nithin Shet along with the Guest Speaker on the dais



Guest Speaker delivering the talk on Computational Fluid Dynamics



Honoring the Guest speaker with a memento

HOD
Mechanical Engineering