

ATAL Academy's
Faculty Development Programme On

Advances in Computational Fluid Dynamics 21-25 September 2020

Sponsored by



AICTE Training and Learning (ATAL) Academy

Organized by



Department of Mechanical Engineering,
Symbiosis Institute of Technology,
Symbiosis International (Deemed University), Pune



Near Lupin Research Park, Gram: Lavale, Tal: Mulshi, Pune 412115
<https://www.sitpune.edu.in>

Symbiosis International (Deemed University), (SIU), Pune

Symbiosis International (Deemed University), (<https://siu.edu.in/>) is a multi disciplinary university offering its students and faculty a vibrant learning ecosystem designed around its multi-cultural and innovative ethos. Established in 1971 by Prof. Dr. S.B. Mujumdar, it is a 'home away from home' for International students. The Institution is based on the principles of Vedic thought of "World as One Family". The University's name fittingly captures the quintessence of the relationship with International students; a mutually beneficial bond between India and the International student community. Symbiosis is committed to building international understanding by offering quality education and is resplendent of the activities and students of more than 85 countries.

Today the university has 37 Constituents, 7 Research Centres, 9 Support departments and 11 Departments of Skills & Continuing Education across four states and 6 cities in India. All the university campuses epitomize the Symbiosis vision, 'Promoting International Understanding through Quality Education' and are a beehive of international students from all across the globe, being privy to Indian culture and hospitality.

The University has been awarded Category-I status by UGC, and an 'A' grade by NAAC with a score 3.58 on 4. The university is also ranked #43 by NIRF 2020 in India under the Universities Category, #109 in BRICS QS World ranking 2018-19, and is the only Indian university to have received the Asia Pacific Quality Label.

Symbiosis Institute of Technology

Symbiosis Institute of Technology, (<https://www.sitpune.edu.in>) is a constituent of Symbiosis International (Deemed University), Pune was established in the year, 2008. SIT is approved by All India Council for Technical Education (AICTE), New Delhi and currently offers B. Tech programmes in Civil Engineering, Computer Science and Engineering, Electronics & Telecommunication Engineering, Information Technology and Mechanical Engineering and M.Tech programmes in Computer Aided Design and Manufacture, Electronics and Telecommunication Engineering, Computer Science and Engineering. Research programmes leading to Ph. D. Degree were introduced in Faculty of Engineering of Symbiosis International University in 2010.

The Institute has international collaborations for student and faculty exchange with Nanyang Technological University Singapore, Ingolstadt University Germany, Purdue School of Engineering, IUPUI Indianapolis USA and Leibniz University Hannover.

Mechanical Engineering Department

The Department of Mechanical Engineering aims to produce quality professionals in Mechanical Engineering to compete globally and excel by carrying out basic and applied research in emerging areas by forging strong industry-institute interaction. The department has very competent faculty to teach latest subjects like CAD CAM, FEM, Manufacturing Technology, CFD, and Operations Management. The faculty is actively engaged in research and publications. The Department has well equipped workshop and laboratories to include state of the art machines as well as latest software like CATIA V5, ANSYS and MATLAB.

Workshop

Computational fluid dynamics (CFD) is an effective, economical and reliable science utilized by most of industry as well as by most of research organizations and institutes to predict and evaluate flowing fluid characteristics. Currently the CFD of Flows involving heat transfer, turbulence, multiphase flows, multi-species flow, combustion phenomenon, fluid structure interactions, etc found to be main research interests.

The goal of this faculty development program in "Advances in Computational Fluid Dynamics" is to promote computational fluid dynamics and to provide a framework for communication and collaboration between researchers, developers and practitioners in industry and academia. The FDP will give an exposure to the current problems in industries as well as research activities carried out by CFD experts. The vast experience of resource persons, invited during FDP, will certainly help the researchers, teachers and PG students to understand and elevate their understanding about the basics of CFD, accurate interpretation of CFD results obtained, utilizing CFD software for various applications. The methodology and techniques used for the code writing will also be covered.

Workshop Objectives

Knowledge enrichment on present and future available applications of CFD to various fields

Propagation of latest facts about computational fluid dynamics field

Provide the hands-on to the CFD coding as well as CFD software environment.

Course Content and Resource Persons

DAY 01	Dr. Shewatkat C M (COEP, Pune) - Basic of CFD, Solution of diffusion, convection and convection diffusion using FVM, Hands on session for coding of N-S equation.
DAY 02	Dr. Yogesh Bhumkar (IIT Bhubaneswar) - Basics of high performance computing, High order accuracy. Hands on session for Solution of fluid flows and aeroacoustics noise for around bluff body.
DAY 03	Dr. Chetan Mistry (IIT Kharagpur) - Applications and challenges of CFD analysis for turbomachines.
DAY 04	Vivek Kumar Singh (SAC, ISRO, Ahmedabad) - Application of CFD for development of Rocket and Spacecraft Propulsion Systems. Special session on the mental & emotional development and stress management by symbiosis center for emotional wellbeing, Pune
DAY 05	Dr. Nitin Gulhane (VJTI, Mumbai) - CFD application to Micro fluidics, MEMS Design and Micro channel Cooling. Dr. Vikas Kumar (CDAC, Pune) - High performance computing and role of CDAC in CFD applications.

How to Register

Participant can register only through AICTE's ATAL portal:
<https://atalacademy.aicte-india.org/signup>

Eligibility

- No Registration fees.
- Faculty/ Research Scholars / PG Scholars from Government from AICTE recognized Institutions can participate.
- Participants from Industry (Bureaucrats/ Technicians / Participants from Industry etc.) can also participate.

Advisory Members

- **Dr. Ketan Kotecha,**
Director, Symbiosis Institute of Technology and Dean Faculty of Engineering, Symbiosis International (Deemed University), Pune.
- **Dr. Nitin Khedkar,**
Faculty In-charge, administration, SIT, Symbiosis International (Deemed University), Pune.
- **Dr. Anand Kumar Pandey,**
Head, Mechanical Engineering Department, SIT, Symbiosis International (Deemed University), Pune.

Contact Details of Institute coordinator:

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General Instruction

Eligible participants will be selected based on first come first serve basis and selected participants will be intimated by email only.

On the last day of the program as assessment test (objective type) will be conducted for all participants.

Those who have an attendance of minimum 80 % and score more than 60% in the test will be issued a digital certificate by the ATAL Academy.

SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

Established under Section 2 of the UGC Act, 1956 | Re-accredited by NAAC with 'A' grade (3.58/4) | Awarded Category - I by UGC