

## About the Programme

The main motto of the Faculty Development Program (FDP) “**Condition Monitoring and Hydrodynamic Design of Marine Vehicles (CMHDMV - 2022)**” is to provide a platform for the upcoming researchers who are willing to work in the areas of

- **Condition Monitoring of Marine Vehicles (MV) and Autonomous Underwater Vehicles (AUV):**
  - Thermal monitoring using infrared thermography
  - Surface and internal defect detection
  - Performance monitoring
  - Vibration monitoring
  - wear debris analysis
- **Hydrodynamic Design of Marine Vehicles (MV) and Autonomous Underwater Vehicles (AUV):**
  - Design Modeling and Testing
  - Applications of CFD
  - Maneuvering
  - Shape optimization
  - Positive buoyancy

The importance of Condition Monitoring helps in the effective utilization of cost involved in maintenance by analyzing the condition of the equipment and can predict when maintenance is required. This FDP takes the resources from Naval Science and Technological Laboratory (NSTL), Visakhapatnam, and also trains the researchers working on Marine Vehicles (MV)/Autonomous Underwater Vehicles (AUV). This course will offer a unique opportunity to all colonize the relevant topics of marine vehicles to come close through theoretical sessions and a greater number of laboratory-based experiments/demonstrations. This FDP proposes 40% of resource persons from Naval Science and Technological Laboratory (NSTL), Visakhapatnam (DRDO) and about 60% from prestigious institutions like IIT's, NIT's and universities which are below 100 ranks of NIRF.

## ATAL Academy

AICTE Training and Learning (ATAL) Academy is established with the vision to empower the faculty to have a sound domain knowledge and associated skills related to the subject. National Education Policy (NEP)-2020 is a lighthouse for this journey of

transformation. In the extant scenario with disruptive technological advancements, the role of higher education teachers is more important than it ever was. NEP-2020 envisages the empowerment of higher education teachers with a series of capacity-building training and workshops to prepare them to identify, define and implement the changes. ATAL academy will conduct a series of workshops in thrust areas identified by AICTE.

## Eligibility

The faculty members of the AICTE-approved institutions, Research scholars, PG Scholars, participants from the Government, Industry (Bureaucrats/Technicians/Participants from Industry etc.) /School Teachers and staff of host institutions.

## Important Dates

**Last date for Applying in ATAL website: 04-11-2022**

**List of selected participants will be intimated through mail : 05-11-2022**

## Registration and Other Details

There is no registration fee for any participant. No TA/DA will be paid to any participant. Limited accommodation is available subject to availability. Breakfast and lunch will be provided to the participants. The certificates of participation will be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test by the respective ATAL Academy.

## Address for Correspondence

**Prof. G. Ravi Kiran Sastry**  
Professor, MED; NIT AP

**Dr. Santosh Kumar G**  
Assistant Professor, MED; NIT AP  
E-mail: atalme@nitandhra.ac.in

**P. Narasimha Siva Teja** (Research Scholar)  
Mobile No: +91 9398308482

**B. Sairam Prasad** (Research Scholar)  
Mobile No: +91 8186925384

**Register using the link:**

<https://atalacademy.aicte-india.org/login>

**(Signup -> login -> FDPs -> November -> apply this FDP)**

## REGISTRATION FORM

**Two Week Online/Hybrid Faculty Development Programme (FDP) under AICTE Training and Learning (ATAL) Academy**

**on**

**CONDITION MONITORING AND HYDRODYNAMIC DESIGN OF MARINE VEHICLES**

**(CMHDMV - 2022)**

**09-11-2022 to 20-11-2022**

**DEPARTMENT OF MECHANICAL ENGINEERING  
NIT ANDHRA PRADESH - 534101**

1. Name: \_\_\_\_\_
2. Designation: \_\_\_\_\_
3. Organization: \_\_\_\_\_
4. Address for correspondence with e-mail:  
\_\_\_\_\_
5. Telephone / Mobile No: \_\_\_\_\_
6. Teaching/Industry Experience: \_\_\_\_\_
7. Research area: \_\_\_\_\_

Place:

Date:

Signature of the Applicant

**Approval from present employer/organization of the applicant:**  
The applicant is a research scholar/ an employer and will be permitted to participate in the above program, if selected.

Signature and the Seal of Head of the  
Institution/Department/Section

**TENANTIVE SCHEDULE:**

Week 1 – ONLINE (Time: 19:00 - 21:30)

09-11-2022	10-11-2022	11-11-2022	12-11-2022	13-11-2022	14-11-2022
19:00-19:50 Session 1: Introduction to CFD Dr. HN Das Scientist-G NSTL Visakhapatnam	19:00-19:50 Session 2: Condition Monitoring of Marine Vehicles Mr. Venkata Ratnam Technical Officer-D NSTL Visakhapatnam	19:00-19:50 Session 3: Advance Hydrodynamic concepts in design Dr. Rajiv Sharma Professor IIT Madras	19:00-19:50 Session 4: High Performance Computing in Hydrodynamic Design Dr. Rajiv Sharma Professor IIT Madras	19:00-19:50 Session 5: Flow Around Bluff Bodies Dr. S. Dhinakaran Professor IIT Indore	19:00-19:50 Session 6: Recent Advancements in Drag Reduction Dr. Rajiv Sharma Professor IIT Madras
20:00-20:50 Session 1: Dr. HN Das Scientist-G NSTL Visakhapatnam	20:00-20:50 Session 2: Mr. Venkata Ratnam Technical Officer-D NSTL Visakhapatnam	20:00-20:50 Session 3: Dr. Rajiv Sharma Professor IIT Madras	20:00-20:50 Session 4: Dr. Rajiv Sharma Professor IIT Madras	20:00-20:50 Session 5: Dr. S. Dhinakaran Professor IIT Indore	20:00-20:50 Session 6: Dr. Rajiv Sharma Professor IIT Madras
21:00-21:30 Session 1 Interactions	21:00-21:30 Session 2 Interactions	21:00-21:30 Session 3 Interactions	21:00-21:30 Session 4 Interactions	21:00-21:30 Session 5 Interactions	21:00-21:30 Week 1 MCQs

Week 2 – OFFLINE (Time: 09:30 – 16:30)

16-11-2022	17-11-2022	18-11-2022	19-11-2022	20-11-2022
09:00-09:30 Inauguration	09:30-12:00 Session 8: National Education Policy Dr. Arun Kumar R Assistant Professor SOS NIT AP	09:30-12:00 Session 10: Applications of CM Dr. K. Ramjee Professor, AU, Ex Vice Chancellor, Ambedkar University	09:30-12:00 Session: 12 Turbulence Modeling Dr. HN Das Scientist-G NSTL	09:30-12:00 Session: 14 Renewable Energy System for Marine Vehicles Dr.K. Srinivas Reddy Professor – IIT Madras
09:30-12:00 Session 7: Emerging Trends in CM Dr. P.V.S. Ganesh Kumar Scientist-H; NSTL Visakhapatnam	12:00-13:00 Article 1 Discussion	12:00-13:00 Article 2 Discussion	12:00-13:00 Week 2 MCQs	12:00-13:00 Visit Report (Team)
12:00-13:00 Lunch	13:00-14:00 Lunch	13:00-14:00 Lunch	13:00-14:00 Lunch	13:00-14:00 Lunch
13:00-14:00 Travel For Visit	14:00-16:30 Session 9: Indian Values & Ethics Dr. Karthick Seshadri Assistant Professor, Dept. of CSE, NIT AP	14:00-16:30 Session 11: Research Methodology Dr. P. Dinesh S Reddy Associate Professor DCME - NIT AP	14:00-16:30 Session 13 Life Skills Dr. G. B. Veeresh Kumar Assistant Professor DME NIT AP	14:00-15:00 Reflection journal
14:00-16:00 Visit	16:30-17:00 Teaching Practice	16:30-17:00 Teaching Practice	16:30-17:00 Teaching Practice	15:00-16:00 Feedback
16:00-17:00 Travel back	-	-	-	16:00-17:00 Valedictory

**About the Institute**

National Institute of Technology, Andhra Pradesh is the 31<sup>st</sup> institution among the chain of NITs started by the Government of India. NIT Andhra Pradesh is established in the state of Andhra Pradesh from the academic year 2015–16. Various disciplines of Engineering and Technology are offered at the Undergraduate and Postgraduate levels, the institute is striving to offer excellent facilities for advanced research in the emerging areas of Science and Technology.

**About the Department**

Mechanical Engineering department is one of the pioneering departments of the Institute. The department is progressing at a rapid pace with development in both the spheres of infrastructure facilities and academic programmes. The department has highly qualified faculty members engaged in teaching and research with the aim of achieving excellence in the field of Mechanical Engineering. The department offers both UG and PG in Thermal and Manufacturing Engineering. The department is also offering Ph.D. programs to promote research activities in the various areas of Mechanical Engineering.

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during

09-11-2022 to 20-11-2022

**Coordinator**Prof. G. Ravi Kiran Sastry  
Professor, Dept. of ME**Co-Coordinator**Dr. SANTOSH KUMAR G  
Assistant Professor,  
Dept. of ME**Chairman**Dr. T. Babu Rao  
HOD, ME**Chief Patron**Prof. Pramod.M. Padole  
Director, NIT AP**Patron**Dr. Dinesh P Sankar  
Reddy  
Registrar i/c, NIT AP

Organized by

**Department of Mechanical Engineering**  
**National Institute of Technology, Andhra Pradesh**  
Tadepalligudem, Andhra Pradesh-534101, India.

Website: [www.nitandhra.ac.in](http://www.nitandhra.ac.in)