



HOPE Foundation's

Finolex Academy of Management & Technology, Ratnagiri

Department of Mechanical Engineering

One Week Online Faculty Development Program on Advanced Materials Processing

Department of Mechanical Engineering organized One-week Online Faculty Development Program on **Advanced Materials Processing**. The sessions were delivered by experts in the field of Heat Treatment, Energy Storage Materials, Additive Friction Stir Processing and the Manufacturing area. The program was scheduled from **Monday 21st February to Friday 25th February 2022 on Google Meet**.

The Faculty Development Program sessions were delivered by the faculty from NIT, DIAT, COEP and Trinity College Dublin and the experts from industries. The program was inaugurated by the **Principal Dr Kaushal Prasad and Dr. Milind Kirkire, Professor, Dean Academics and Head of Mechanical Engineering Department**, introduced the activities of Mechanical Engineering Department.

The FDP brought together people from different domains such as Mechanical Engineering, Materials, Manufacturing and acquainted the participants from the industries and academia to new materials or technologies exploring the future scope in the areas of materials and manufacturing.

56 participants from different academic institutions participated in this program. **Dr. Tarang Shinde, Associate Professor**, Mechanical Engineering Department, was the convener and **Prof. Sachin Gurav and Prof. Jayesh Anavkar**, Assistant Professors, Mechanical Engineering Department coordinated the program successfully.

About Hope Foundation

Late **Shri Pralhad P. Chhabria** has established a Public Charitable Trust 'HOPE Foundation and Research Centre' (HOPE Foundation) in 1979 with the motto of rendering social services towards nation-building.

The Hope Foundation has been active in the field of medicine since its inception, extending aid for cancer patients especially children in the form of medical assistance and life-saving drugs. The foundation has established the first-ever technical institute 'Finolex Academy of Management and Technology (FAMT)' in the rural area of Konkan, Ratnagiri to promote technical education in 1996. Later, the foundation established International Institute of Information Technology (IIT), Pune in 2011. The foundation provides technical and financial supports through donations, scholarships, awards, fee waivers, and assistantships to students.

Mrs. **Aruna M Katara**, President Hope Foundation, is now carrying on the legacy of the founder president.

About FAMT

FAMT was established to impart quality technical education at an affordable cost and contribute to the industrial growth of our nation. The academy is approved by All India Council for Technical Education (AICTE), New Delhi; recognized by Directorate of Technical Education (DTE), Government of Maharashtra, affiliated to University of Mumbai, and accredited with B++ Grade by National Assessment & Accreditation Council (NAAC).

Situated on the picturesque coast of western Maharashtra, FAMT is one of the reputed engineering institutes in the region and state. The academy is known for its quality technical education and has a distinct identity in the University of Mumbai for its consistently outstanding results. The academy has received appreciation and many awards from various national bodies. FAMT had celebrated **Silver Jubilee** in the Year 2021.

About Faculty Development Programme

The processing of materials with different pathways has become very important in order to ensure the final product involves the required traits and it will have a considerable life span. The demand from the industries is towards cost effective, still efficient methodologies to conquer the challenges faced during the manufacturing. This One-week Faculty Development Program (FDP) is planned by the Department of Mechanical Engineering of Finolex Academy of Management and Technology, Ratnagiri in order to acquaint the participants from the industries as well as academia with new materials or technologies as well as expand the future scope in the areas of materials, manufacturing. The experts from academia and industries who are active in the field of materials and manufacturing will be delivering sessions on some of the emerging technologies which could be adopted by the industries in near future. This FDP will certainly provide an online interactive platform among attendees and researchers/faculty to discuss and implement some of the key methodologies in actual practice.

One Week
Online
Faculty Development
Programme on
**"Advanced
Material Processing"**

21st February – 25th February 2022

Organized by

Department of Mechanical Engineering
Finolex Academy of Management and
Technology, Ratnagiri, Maharashtra, India



Accredited by NAAC with B++ Grade
Outstanding Engineering Institute (West) Award-2021 in
prestigious Zee Digital Education Excellence Awards
Ranked among Top 125 Private Engineering Institutes and
among Top 175 Engineering Institute in Times of India-Engineering
Institute Survey 2021
Ranked among Top 100 Engineering Colleges in India by India
Today Best Engineering Colleges 2021 survey
Rated in Platinum Category in 2021 and Gold Category in 2018 &
18 in AICTE-CII Survey of Industry Linked Technical Institutes

A Project by Finolex

About Mechanical Engineering Department

Mechanical Department was established in the year 1997. It offers an undergraduate course with an intake of 90 and Post graduate course in Machine Design..

The department has state of art laboratories with a Center of Excellence consisting of CNC Machine, 6-axis Robotic Arm and 3D Printer to nurture students and to provide them with the industrial exposure.

The department actively organizes expert sessions from industry and academia for students and faculty for their holistic development.

The facilities are actively engaged in research work. The department signs MoU with industries to provide real-time industrial exposures to students in terms of visits, workshops, and internships.

Chief Patron

Mrs. Aruna M Katara
President, Hope Foundation and Research Centre, Pune

Patron

Dr. Kaushal Prasad
Principal, FAMT

Head of the Department

Dr. Milind S. Kirkire
Professor, Dean Academics and Head, Mechanical Engineering Department, FAMT

Convener

Dr. Tarang R. Shinde
Associate Professor,
Mechanical Engineering Department, FAMT

Speakers

Dr. Prakash Ranaware
Assistant Professor, Department of Metallurgical & Materials Engineering, National Institute of Technology, Srinagar
Area of Research: Physical Metallurgy, Thermo-Chemical Surface Treatment of Steels

Dr. Prasad Lokhande
Post Doctoral Research Fellow, School of Mechanical Engineering, Trinity College Dublin, UK
Area of Research: Nanomaterial Synthesis

Mr. Sushil Katre
Manager-Product Development, Metallurgy, Mahindra and Mahindra Truck and Bus Division, Pune
Area of Research: Failure Analysis of Steels, New Product Development

Dr. Hemant Deore
Assistant Professor in Mechanical Engineering
STES' SKN College of Engineering, Pune
Area of Research: Mechanical Processing of Materials, Composites, Adv. Characterization

Dr. Arun Thakare
Assistant Professor in Mechanical Engineering
STES' NBN Sinhgad School of Engineering, Pune
Area of Research: Thermomechanical Processing of Materials

Registration

Registration Fees : No Registration Fees

Link for Registration:
<https://forms.gle/qr6bQUomJ3szpN4R7>

Session Timings: From 2.00 pm to 4.30 pm

Coordinators

Prof. Jayesh S. Anavkar (8975141305)

Prof. Sachin S. Gurav (9422743455)

Email: mechdata@famt.ac.in

FDP Flyer

Snaps from FDP

The screenshot shows a Zoom meeting in progress. The main window displays a presentation slide titled "1. Engine valve spring" with a subtitle "1.2 Cold formed spring production". The slide includes a flowchart of the production process: Color detection (Defect) → Heat treatment → grinding → shot-peening → shot-peening → detection & surface-cooling → Nitrope setting (QPT) → 100% check. Below the flowchart, it states "Capable to make $\Phi 2.0mm$ & $3mm$. Heat treatment limitations!!!!". The slide also lists "Intelligent Controls" with bullet points: Real time relative measurement of spring length during coiling process; correction of spring length during coiling operation for currently produced valve spring; Forecast of residual value for ideal spring length; Help in reduction of energy consumption; Increase of production speed, e.g. Research 700k/300/min \rightarrow 100k/min; Hitachi G10, 1200v/min \rightarrow 100v/min. The Zoom interface shows a grid of participants including Jayesh Anavkar, Sushil Kumar Katre, Mr. Nikhil Mohan, Sachin Vanjari, Prateek Malwa, Vidyashool Bagade, Rahul Agham, and 8 others.

The screenshot shows a Zoom meeting in progress. The main window displays a presentation slide titled "A. Introduction". The slide content includes:

- The main aim of automobile industries is to reduce cost of product, by reducing cost of raw materials.
- Two different types of steels are used in automobile industry, quenched & tempered (Q&T) steels and precipitation hardening ferritic pearlitic steels (PHFP).
- Cost of PHFP steels is less than Q&T steels because of elimination of additional heat treatments, i.e. hardening, tempering and stress relieving.
- Mechanical properties of PHFP steels are inferior than Q&T steels, mainly strength and toughness.
- Strength improved by addition of micro-alloy and carbide forming elements and toughness improved by controlled cooling from hot forging temperature.

 The Zoom interface shows a grid of participants including Dr. Sanjay Rukhunde, Arun Thakare, Yogesh More, Sachin Desai, P.R. Kahirsoagar, and Ravikant Narwatkar.