



Annual Calendar for Short Term Courses FY:2023-24



Central Institute of Petrochemicals Engineering and Technology (CIPET)
School for Advanced Research in Petrochemicals (SARP)
Advanced Polymer Design and Development Research Laboratory (APDDR)
Department of Chemicals and Petrochemicals, Ministry of Chemicals & Fertilizers, Govt. of India
Hi-tech Defense and Aerospace Park, Jalahobli, Devanahalli, Bengaluru North, Karnataka – 562149



About CIPET:SARP-APDDRL, Bengaluru

School for Advanced Research in Petrochemicals (SARP) - APDDRL, one of the R&D wings of Central Institute of Petrochemicals Engineering and Technology (CIPET) is located at Devanahalli, Bengaluru. APDDRL, with its state-of-the-art technical infrastructure, is dedicated for Research & Development, Consultancy, Technical Support Services and Specialized Tailor-made Courses in Polymeric Materials and Petrochemical Products.

SARP-APDDRL, a 'one-stop facility' for conceptualization of novel research ideas, is well-equipped with facilities for Material Development to Product Design & Development and Process & Design Validation. SARP-APDDRL works towards articulating research ideas to develop novel technologies on environmentally friendly solutions for sustainable polymers, plastics waste management, recycling & value addition, fuel efficient transportation, power storage and energy harvesting devices, polymers for bio-medical & healthcare applications, process & application development for cellular plastics, product design & simulation, process validation and 3D-printing technologies, to keep pace with the global scientific community.



APDDRL regularly conducts Skill Upgradation programs, Industry specific tailor-made training programs, Technical seminars and Workshops for the benefits of industry personnel, research students, faculty members and budding entrepreneurs.

The laboratory also undertakes consultancy and technology support assignments for solving engineering problems of the industries, developing indigenous technologies and formulating environmentally friendly solutions etc. Further, the laboratory provides centralized support and service with state-of-art testing & characterization studies, catering to a wide arena of requirements of polymer and allied industries.

In addition, the laboratory caters to the contemporary requirements of the society such as developing alternatives for Single Use Plastics, Recyclability Analysis of various products, Biodegradability Studies and Development of Bio-based Polymers & Composites.

Further, the laboratory provides support to start-ups for development of Indigenous technologies.

PRODUCT DESIGN & DEVELOPMENT

Code: BLR-STC-01

Title: Advancements in Plastic Product Design & Development with DFM

Duration : 16 hrs / Two days

Proposed dates : 25.05.2023 – 26.05.2023 &
09.11.2023 – 10.11.2023

Contents: Characteristics of Successful Product Development- Product Development Process- Plastic materials- Molding process – Principles & Methodical approach for Product Design– Material selection – Process selection - Product Design Features- Assembly Features - Design for Manufacture & Assembly (DFMA) - Tooling Aspects on Product Design – Cost Analysis for Product Design - Design for Composites – Importance of CAE in product design – Design for additive manufacturing-Case studies.

Coordinator: Dr. R.Joseph Bensingh (+91-9840376907)

TESTING & CHARACTERIZATION

Code: BLR-STC-02

Title: Testing and Quality Control of Micro-irrigation Components as Per Relevant IS Standards

Duration: 16 hrs / Two days

Proposed dates : 14.09.2023 - 15.09.2023 &
23.11.2023 - 24.11.2023

Contents: Introduction to Plastics; Plastics for Micro irrigation components; Relevant Test Standards; Sampling Procedure; Significance of test methods in applications; Demonstration of Test and its analysis; Result interpretation; Case-Studies

Coordinator: Ms. Sasmita Mishra (+91-9692029433)

Code: BLR-STC-03

Title: Morphological Analysis of Polymer Composites and Blends Through FESEM Technique

Duration: 16 hrs / Two days

Proposed dates : 19.07.2023 -20.07.2023 &
18.01.2024 - 19.01.2024

Contents: Introduction to Polymer morphology through SEM, Scanning Electron Microscopy Analytical Techniques Energy-Dispersive X-ray Spectroscopy (EDS), Sample Preparation and its analysis, SEM imaging process and its instrumentation, Case study.

Coordinator: Dr. Manoranjan Biswal (+91-9090968453) &
Dr. Wasim Feroze G . S. (+91-7666355661)

Code: BLR-STC-04

Title: Assessment and Characterization of Compostable Polymers

Duration: 16 hrs / Two days

Proposed dates : 13.06.2023 - 14.06.2023 &
12.10.2023 - 13.10.2023

Contents: Introduction to Polymer, Bio-polymers, Bio-degradable & compostable polymers. Identification of polymers and its characterization technique. Training on standard methodology and protocol for Anaerobic biodegradation test. Compostability study and its test protocol. Glimpse on different test methodology available on biodegradable study

Coordinator: Dr. Manoranjan Biswal (+91-9090968453) &
Dr. Sonalee Das (+91-7978454952)

PROCESSING

Code: BLR-STC-05

Title: Plastics Processing and Compounding – Role in Product Properties

Duration: 16 hrs / Two days

Proposed dates : 16.08.2023 - 17.08.2023 &
14.02.2024 - 15.02.2024

Contents: Introduction to plastics processing; Injection moulding; Plastics Extrusion – Material compounding, Blown film extrusion and Sheet extrusion; Blow moulding; Rotational moulding; Thermoforming; Practical demonstration; Material selection and process optimization; Trouble shooting; Case studies

Coordinator: Dr. Wasim Feroze G. S. (+91-7666355661)

Code: BLR-STC-06

Title: Plastics Waste Management and It's Mechanical Recycling Approach

Duration: 16 hrs / Two days

Proposed dates : 20.09.2023 -21.09.2023 &
22.02.2024 - 23.02.2024

Contents: Introduction to Plastics-waste, Constituents of waste, Classification and segregation of waste, Environmental Effect and Control Measures, Availability and Socio-Economic Characteristics, Hazardous substances, Rules, Hazardous waste (Management and handling) rules, Sustainable waste management practices, 4R principle for waste management. Physico-mechanical methods of treating plastics waste. Life-cycle analysis and its recycling technology – Casting with PU material – Applications and Case studies.

Coordinator: Dr. Manoranjan Biswal (+91-9090968453)

Code: BLR-STC-07

Title: Polymer Coatings: Technology, Formulation and Application

Duration: 16 hrs / Two days

Proposed dates : 23.08.2023 - 24.08.2023 &
13.12.2023 - 14.12.2023

Contents: Introduction to coatings, Types of coatings, Need of Polymers in coatings, Polymers in coatings, Advantages and limitations of Conventional coatings, Need of Bio-based resources in coatings, Conventional vs. Bio-based coatings, Chemistry, Fabrication techniques, Characterization techniques, Polymer coatings applications in automotive, aerospace, marine, defence and power plants, Case studies

Coordinator: Dr. Sonalee Das (+91-7978454952)

Code: BLR-STC-08

Title: Polymers for Membrane Fabrication Towards Water & Wastewater Treatment Applications

Duration: 16 hrs / Two days

Proposed dates : 01.08.2023 – 02.08.2023 &
26.02.2024 – 27.02.2024

Contents: Introduction to membrane forming polymers; Introduction to water treatment approaches; Types of water contaminants; Membrane fabrication procedures; Testing and characterization of membranes; Membrane fouling; Application in treatment of various types of water and wastewater; Case studies.

Coordinator: Dr. Kingshuk Dutta (+91-8100753494)

Course Fee: Rs. 10,000 /- plus GST 18% per person per Course
(Inclusive of course material, working lunch and tea/coffee)

CIPET, SARP - APDDRL, Bengaluru also conducts Tailor Made Courses exclusively for the participants from any company either at company's premises or at CIPET, Bengaluru. The contents of the course can be customized based on their requirement or by CIPET.

Apart from these specialized courses, the regular CAD/CAM/CAE/Additive manufacturing courses are also conducted as per the requirement.

Further details please contact:

The Senior Scientist & Head

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