

## SKILL DEVELOPMENT PROGRAM

# Removal of Organic Dyes from Aqueous Solutions and Textile Wastewaters

CSIR-National Institute for Interdisciplinary Science and Technology (NIIST)  
Council of Scientific and Industrial Research (CSIR)  
Industrial Estate P.O., Pappanamcode  
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### BACKGROUND

Organic synthetic-dyes are recalcitrant compounds that are extensively used in various industries such as the textile, pulp and paper, leather tanning, food, agricultural research, hair colorings, and light-harvesting arrays. Even very small amount of synthetic dyes in water is highly visible affecting the aesthetic merit, light penetration, and oxygen solubility of water bodies. There are more than 1,00,000 commercially available dyes with over  $10^5$  Ton of dye-stuff produced annually. After the dyeing process, the loss of colorants to the environment is 10–50%. Many of these dyes are toxic and even carcinogenic which pose a serious hazard to the aquatic and human life. In India alone, dyestuff industry produces around 60,000 Ton of dyes, which is approximately 6.6% of total colorants used worldwide. The increased color fastness, stability, and resistance of dyes to the degradation have made the color removal from the industrial wastewaters relatively difficult. The present two lecture series would provide an overview of the current state-of-the art of research activities in the area related to the removal of organic-synthetic dyes from the aqueous solutions and textile wastewaters.



### TOPICS COVERED

- Photocatalysis, Dark Catalysis
- Adsorption
- Advanced Oxidation Processes (AOPs)
  - Fenton- / Fenton-like reactions
  - Ultrasound Cavitation
  - Ozonation
- Radical Generation and Trapping
- Nano Catalyst Processing
  - Sol-gel
  - Hydrothermal
  - Ion-exchange
  - Electroless coating
- Case Studies

### MODE OF TRAINING

- On-line

### SCHEDULE

- 21-22 October-2021 (Two Days)
- 9:30 AM To 12:30 PM (3 Hours)

### PREFERRED AUDIENCE

- Academic, Research and Industry Personnel having Engineering / Science Background

### FEES

- Rs. 1,000/-
- Rs. 2,000/- (Sponsored Candidates)

### PAYMENT

- On-line

### CONTACT

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