

Removal of Organic Dyes from Aqueous Solutions and Textile Wastewaters



CSIR-NIIST



CSIR Integrated Skill Initiative

COURSE COORDINATOR

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COURSE DATE AND TIME

July 21st and 22th 2022

6 Hours (Total)

APPLY ONLINE

<http://sdp.niist.res.in>

ACCOUNT DETAILS

The Director, CSIR-NIIST

(Regional Research Laboratory (RRL))

Account No: 67047723825

IFS Code: SBIN0070030

Bank: State Bank of India (SBI)

Address: Pappanamcode, Industrial Estate

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 105 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, the 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, Trapping, and Scavenging
- Nano Catalyst Processing
 - Sol-gel
 - Hydrothermal
 - Ion-exchange
 - Electroless Coating
- Case Studies (KINFRA, Kannur; KSGWOA, Bengaluru)

ELIGIBILITY

- Academic and Industry Personnel having Engineering / Science Background

COURSE FEE

- Students: ₹ 1,000/-
- Candidates Sponsored by Industries / Research Institutes / Colleges: ₹ 2,000/-