



Department of Scientific and
Industrial Research
Ministry of Science & Technology
Govt of India



Workshop on Flow Synthesis & Continuous Manufacturing

November 05, 2023 at 3:30 PM – 5:30 PM

crtdh@iitgn.ac.in

DSIR - CRTDH at CSIR-NCL, Pune is working on the process intensification in the chemical intermediates, dyestuff, and colorants industry through continuous flow synthesis and its scale-up for manufacturing. A broad spectrum of various types of reactions such as aromatic nitration, diazotization, and coupling, Meerwein arylation, sulfoxidation, Amination, bromination, chlorination, controlled oxidation of alcohols, fluorination, Grignard reaction, lithiation, ozonolysis, anionic polymerization, ethoxylation, and catalytic esterification etc. have already successfully demonstrated at different scales (ranging from a few in kg/day to tons/day). The workshop is aimed to showcase a few case studies (azo dyes, acid dyes, reactive dyes and basic dyes) and elaborate on the approach that CSIR-NCL would like to follow while working with the MSMEs in this sector. The workshop will be conducted with IIT Gandhinagar faculty members with expertise in safety and HAZOP analysis of continuous processes.

The workshop alongside the DSIR – CRTDH Conclave will discuss

1. The implication of Flow synthesis & Continuous Manufacturing
2. Case studies of well-known reactions

Team for the workshop



Dr. Amol A. Kulkarni

Senior Principal Scientist
Chemical Eng. & Process
Development Division
CSIR – National Chemical
Laboratories, Pune
E-mail: aa.kulkarni@ncl.res.in
Phone +91-20-2590 2153



Dr. Anil Kinage

Senior Principal Scientist
Chemical Eng. & Process
Development Division
CSIR – National Chemical
Laboratories, Pune
E-mail: ak.kinage@ncl.res.in
Phone +91-20-2590 2272



Dr. Chinmay Ghoroi

B. S. Gelot Chair Professor
Department of Chemical
Engineering
IIT Gandhinagar
Email: chinmayg@iitgn.ac.in
Phone: +91-79-2395 2405