simulated and industrial wastewaters, respectively at optimized condition. The photocatalytic-ozonation process improved the biodegradability of wastewaters to maximum extent as the BOD$_3$/COD value increased from 0.06 to 0.33 and 0.07 to 0.23 in simulated and industrial wastewaters, respectively. It was understood from AOS analysis, that oxidation of wastewater proceeded with formation of organic intermediates. The performance of fixed mode catalyst was almost same as that of slurry mode catalyst upto 10 runs. The kinetic analysis revealed that all the treatment processes followed pseudo-first order reaction and photocatalytic-ozonation was observed to be the fastest.

The Pilot-scale reactor of 200 L capacity was fabricated based on the performance of bench-scale reactor and installed in the same textile dyeing industry adopting the fixed mode catalyst system. Colour removal of 90-99 % and COD removal of 48-62 % were observed in industrial wastewaters viz., IWW7-IWW13 using photocatalytic-ozonation at ozone dosage of 11.7 g/h, 2.8 mg/cm$^2$ of catalyst coat and 3 UV lamps of 40 W power each after 120 minutes of treatment at actual pH. The TOC removal and biodegradability improvement were nearly the same as obtained in the bench-scale studies with industrial wastewaters. The photocatalytic-ozonation treatment observed to be a costlier than existing treatment systems. Nevertheless, the problem of handling the sludge and other hazardous wastes are highly reduced.