
Seminar Title	: Remote Estimation of Water Quality Parameters in the Bhitarkanika Estuarine Complex, India
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Venue	: Seminar room, Mining Engineering Department
Date and Time	: 20 Dec 2023 (11 am)
Abstract	: Estuaries are one of the most dynamic aquatic environments. The interactions among rivers, winds, and tides lead to large scale variability in various physiochemical and biological parameters, such as salinity, pH, and phytoplankton abundance along the estuary. The Bhitarkanika estuarine complex supports an ecosystem which is exceptionally rich in biodiversity. However, the estuarine water quality is significantly influenced by various anthropogenic activities in the vicinity and by the pollutants from the upstream. Hence, the water quality parameters (WQPs temperature, pH, salinity, electrical conductivity (EC), total dissolved solids (TDS), chlorophyll- <i>a</i> (chl- <i>a</i>), turbidity, total suspended solids (TSS), and dissolved oxygen (DO)) need continuous monitoring, which is not always possible in this large estuarine complex. The aim of the thesis is to develop remote sensing models using Sentinel-2 and Oceansat-3 satellite data for continuous monitoring of WQPs. Surface water samples were collected during summer and monsoon seasons. Salinity shows wide variation (0.45–31.25 ppt) in summer season. The mean value of DO (6.02 ± 0.64 mg/l) and pH (7.28 ± 0.21) are found to be lower in monsoon season. The chl- <i>a</i> , TSS, and turbidity were estimated using C2RCC algorithm based on Sentinel-2 satellite data. It was found that the algorithm performed poorly in the retrieval of these parameters in the estuary.