

Departmental Seminar

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Seminar Title : Enhancing Dam Safety Through Advancements in Water-Lubricated Bearings: A Tribological Perspective  
Speaker : Sumit Kumar Ohdar (522me1004)  
Supervisor : Prof. Saurav Datta (2524), PIC Departmental Seminar  
Venue : ME Seminar Hall (ME-001)  
Date and Time : 19 Mar 2025 (03:00 PM)  
Abstract : The safety and reliability of dams are critical for infrastructure resilience, requiring advancements in materials, monitoring technologies, and hydrodynamic performance. A key aspect of dam safety is the efficient operation of hydroelectric turbines and flood control gates, which depend on robust bearing systems for smooth and reliable functionality. Water-lubricated bearings play a vital role in such applications, offering an environmentally friendly and efficient alternative to traditional lubrication methods. By reducing friction, wear, and maintenance requirements, these bearings enhance the longevity of underwater mechanical components used in dam operations. Integrating surface texture optimization, AI-based performance prediction, and numerical analysis of hydrodynamic behavior in water-lubricated bearings can improve efficiency and safety in dam-related machinery. This alignment between tribological advancements and dam safety strategies underscores the importance of cross-disciplinary research in sustainable infrastructure management.