National Institute of Technology Rourkela

Departmental Seminar

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| Seminar Title | : Conference Return Seminar : Investigation on the behavior of tire derivative and fly ash mixture as retaining wall backfill |
| Speaker | : Subharthi Chattopadhyay |
| Supervisor | : Dr. M. Gattu |
| Venue | : CE Seminar Hall |
| Date and Time | : 08 Jan 2025 (04:15pm) |
| Abstract | : The use of tire derivatives is emerging as a sustainable alternative in place of traditional materials. The sustainability and environmental impact of traditional materials is limited. As a result, alternative materials like tire derivatives, derived from recycled tires and fly ash, a byproduct of coal combustion are receiving interest globally. The present study incorporates the efficiency of a mixture composed of tire derivative and fly ash as a backfill in the retaining wall. Numerical simulations are utilized in the research to assess the performance, and stability of retaining walls using this composite material. The behavior of the retaining wall is compared using only fly ash as a backfill; tire derivative as a backfill; and a mixture of tire derivative and fly ash as a backfill. Both the settlement and pressure on the retaining wall are compared through numerical investigation using rock science. The outcome of the numerical study contributes to the development of resilient and eco-friendly infrastructure by focusing on the structural efficiency and sustainability of retaining walls. |