
Departmental Seminar

Seminar Title	: Assessment of different Indices for Evaluating Heat Stress Conditions in Underground Mines
Speaker	: Gadhi Durga Nookaraju
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Venue	: Seminar Hall
Date and Time	: 08 Jan 2025 (4:30PM)
Abstract	: Heat stress is one of the most challenging and difficult issues associated with underground mining, specifically for greater depth. It can adversely affect the productivity, safety, and well-being of individuals. Assessment of heat stress conditions in the workplace regularly helps the mine management to frame the appropriate control strategies. However, different indices for assessing heat stress are classified into three categories: direct, empirical, and rational. Wet-bulb globe temperature (WBGT) is widely used and the most recommended heat stress indices around the globe; nevertheless, in India, the wet bulb temperature has been in use for several decades. In this present study, a heat survey was conducted in Mine-A, where environmental variables such as dry bulb temperature, wet bulb temperature, and WBGT were recorded in different parts of the selected mine. Thereafter, heat stress conditions were assessed using various direct indices based on wet bulb and dry bulb temperatures, and then they were compared with the WBGT. The results show that the Oxford index values yielded the best correlation with the WBGT values; as an outcome of this research, it is suggested that the Oxford index be used as a heat stress index in Mine-A.