

# EARTH SCIENCES

## DEPARTMENTAL SEMINAR SERIES

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## FROM THE SEAFLOOR TO THE SOLAR WIND: APPLYING EM METHODS AND CAPABILITIES TO 21ST CENTURY PROBLEMS

The Electromagnetic Resource Exploration Group (EMREX) at the Colorado School of Mines focuses on many aspects of applied electromagnetic methods in geophysics. Projects in which we are currently involved include investigating the effect of steel oil & gas infrastructure (such as casings and pipelines) on controlled-source electromagnetic (CSEM) surveys, marine mineral exploration, powerline contamination of airborne electromagnetic data, magnetic storm hazard assessment for electric power grids, and look-ahead geophysical methods during underground tunneling & construction. This talk will describe these and other resource-related problems of 21st century relevance investigated within my research program, as well as provide a general overview of the Department of Geophysics at the Colorado School of Mines.