A $3D$ Tiling Problem in Mine Scheduling

Date: October, 30

Time: 4pm

Location: 750 Schapiro/CEPSR

Abstract: We consider a three dimensional tiling problem arising in the design of excavation schedules for open pit mines. The structure of the problem constraints is such that the more obvious tilings lead to "job" definitions in the scheduling problem that are either invalid or inefficient. We analyze the class of tilings that are compatible with the scheduling problem and show that most tilings in this class are such that the size distribution among the elements in the tiling is infinitely wide, implying infinite inefficiency in the resulting scheduling problem. We identify however a small subclass for which the tilings are comprised of regular repeating patterns.