1086-05-1404   **Jed Yang*** (`jedyang@ucla.edu`). *Undecidable tiling problems.*

Given a set of tiles (think polyominoes) and a region, can we cover the region by translated copies of the tiles without overlaps? This tileability question is undecidable in general and NP-complete for finite regions.

   In this talk, we will focus on the decidability of infinite problems. This may involve infinite regions, such as tiling the complement of a finite shape in the plane by a fixed set of tiles. On the other hand, it could involve tiling a finite region from an infinite family, such as asking if a set of tiles can form a rectangle of unspecified side lengths. We will discuss these (both are undecidable) and others as time permits. (Received September 21, 2012)