Here's a puzzle for you: Is it possible to assemble six 1x2x2 blocks and three 1x1x1 blocks into a 3x3x3 cube? If so, in how many ways can this be done?

Don't look up the solution! Try to figure this out on paper or with a model first. But let me tell you that this is the Slothouber-Graatsma-Conway Puzzle, often called the smallest non-trivial 3-dimensional block-packing puzzle.

I will describe an infinite family of packing puzzles that includes the Slothouber-Graatsma-Conway Puzzle, and I will prove a nice result about them. I will also introduce you to Burr Tools, a cool computer program that helps with investigations of packing and other types of puzzles.

Lunch will be provided for colloquium participants after the talk.