

Dimers, Minecraft and Algebraic Combinatorics

Benjamin Young, University of Oregon

I'll describe an algebraic combinatorics problem involving counting plane partitions and related objects, together with many visualizations (2D and 3D) which have been essential in understanding them - including the popular video game Minecraft, and a considerably less addictive program that I wrote, called dimerpaint. The problems in question arise in algebraic geometry (specifically Donaldson-Thomas theory and Pandharipande-Thomas theory) and a powerful new computational tool of Jenne's. Joint work with Helen Jenne and Gautam Webb.