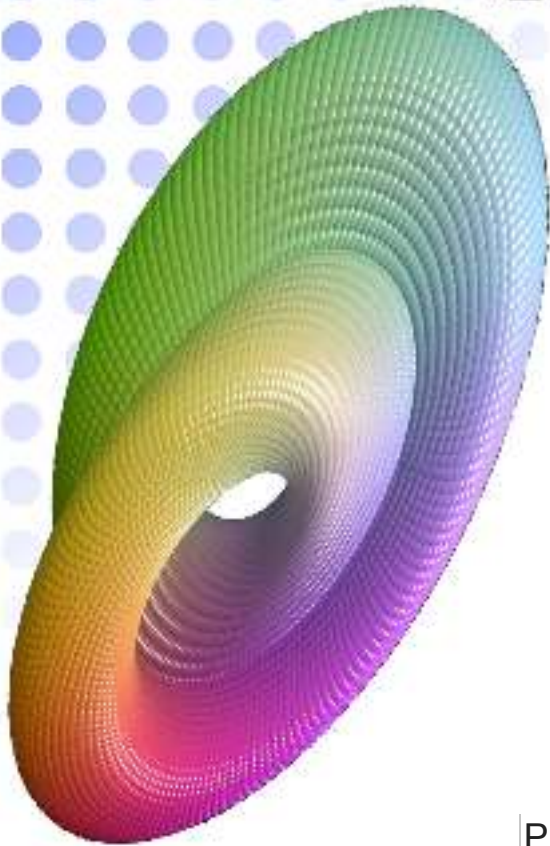


Michigan Math Club

Thursday at 4pm in the Nesbitt Room

Free Pizza and Pop



Taking the long way home: Orbits of plane partitions

Oliver Pechenik

Abstract for 19 October



Plane partitions are piles of cubes stacked in the corner of a room. P. Cameron and D. Fon-der-Flaass (1995) studied a simple action on such piles, whose dynamics are nonetheless quite mysterious. In particular, repeating this action will always eventually return the original pile, but sometimes the voyage is much longer than expected. Motivated by some deep problems in algebraic geometry, H. Thomas and A. Yong (2009) introduced a suite of combinatorial algorithms on certain grids of numbers. In particular, there is a beautiful K-theoretic promotion operator, which again has some mysteriously large orbits, despite its simple combinatorial definition. We'll see how these two mysteries are in fact the same mystery, and use this relation to explain special cases of both actions. (Based on joint work with Kevin Dilks and Jessica Striker.)