1067-AB-2120 **James G. Propp***, One University Avenue, Lowell, MA 01854. *Self-organizing structures in rotor-router blobs.*

Rotor-router aggregation is a deterministic discrete version of Laplacian growth. Blobs grown in the square lattice using rotor-router dynamics are remarkably close to being circular. Also, rotor-router growth gives rise to beautiful pictures that exhibit unexplained symmetries involving the map $z \mapsto 1/z^2$ of the unit disk to its complement in the complex plane. In some cases, there are salient and stunning visual effects that defy immediate translation into mathematical assertions, conjectural or otherwise. (Received September 22, 2010)