1145-D1-1682 **Robert A Bosch*** (rbosch@oberlin.edu), 291 Oak Street, Oberlin, OH 44074, and **Ari Smith**.
Hamiltonian Cycles on Möbius Strips and Other Surfaces. Preliminary report.

We present the results of our ongoing research into constructing Hamiltonian cycles on graphs embedded in Möbius strips and other surfaces. One of our methods starts by employing a modification of MacQueen's algorithm to position points on the surface. It then connects the points into a cycle by solving an instance of the Traveling Salesman Problem (TSP). Our other methods work by taking aesthetically pleasing Hamiltonian paths and cycles on grid graphs and mapping them onto the surface.

We also present 3D printed artwork that we designed using our methods. Some of it can be thought of as 3D TSP Art. Other pieces were inspired by the line drawings of the architect Waclaw Szpakowski. (Received September 23, 2018)