1116-57-1092 **Thomas C. Hull*** (thull@wne.edu), Western New England University, Springfield, MA 01119.

On folding compact manifolds without boundary.

The mathematics of origami has seen a surge of interest over the past decade, in part due to a simultaneous surge in applications of origami in physics and engineering. Yet in 1976 a British mathematician named Stewart Robertson, motivated by paper folding, performed an extensive study of piecewise-isometric mappings between manifolds of arbitrary dimension. In doing so he discovered some mathematical properties of origami a full decade before they were rediscovered by others. In this talk we will survey Robertson's results and use them to answer the question of whether the canonical local results of 2-dimensional origami, namely Maekawa's and Kawasaki's Theorems, hold in higher dimensions. (Received September 16, 2015)