

1056-BF-1057 **Thomas C. Hull*** (thull@wnec.edu), Mailbox H-5174, Western New England College, 1215
Wilbraham Road, Springfield, MA 01119. *Combinatorial Methods in Flat Origami*.

How does paper fold flat? What rules are at play when paper is folded into a flat origami object? One way to approach this question is to make combinatorial and geometric connections between the crease pattern on the unfolded sheet and the final, flat-folded state of the paper that results. This talk will survey such connections, including the theorems of Maekawa, Kawasaki, and Justin. We will see how these results allow us to almost completely characterize and enumerate the single-vertex case and provide much insight into multiple-vertex flat-foldability. The emphasis in this talk will be on new interpretations of these results and on further avenues of study that they reveal. (Received September 20, 2009)