Mathematics of Origami

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Origami, the traditional Japanese art of folding paper into three-dimensional forms, has recently attracted worldwide attention for its structural principles, which have found applications in fields such as aerospace engineering, medicine, and architecture. My research focuses on mathematically characterizing the three-dimensional shapes obtained by folding surfaces along crease lines, based on the properties of the surfaces and the folds. In particular, I study the structure of origami from a topological and geometrical perspective.

Keywords : origami, topology, flat foldable, rigid foldable, folded state, folding motion