BILL MENASCO, University at Buffalo—SUNY

Origamis and coherently intersecting filling pairs of curves on a surface (preliminary report)

This work is joint with Xifeng Jin and Hong Chang. An *origami* is a closed oriented surface X which is obtained from a finite number of euclidean squares by glueing each right edge to a left one and each top edge to a bottom one. Mapping each of the squares onto a torus E in the obvious way one obtains a covering map $p : X \to E$ which is ramified at most in the vertices of the squares. The main object of study in this talk are origamis that can naturally be associated with a filling pair of simple closed curves, (α, β), in X that intersect coherently—their minimal intersection is equal to their algebraic intersection. We establish this association and go on to show the existence of a quasi-geodesic path in the complex of curves, $\alpha = a_0, a_1, a_2, \cdots, a_n = \beta$, such that a_i intersects a_{i+1} at exactly once. Moreover, any pair $(a_i, a_j),\ |i-j| \geq 3$ is a coherently intersecting filling pair and, thus, is associated with an origami.