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**Multi-stability in folded shells: non-Euclidean origami**

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Both natural and man-made structures benefit from having multiple mechanically stable states, from the quick snapping motion of hummingbird beaks to micro-textured surfaces with tunable roughness. Rather than discuss special fabrication techniques for creating bi-stability through material anisotropy, in this talk I will present several examples of how folding a structure can modify the energy landscape and thus lead to multiple stable states. Using ideas from origami and differential geometry, I will discuss how deforming a non-Euclidean surface can be done either continuously or discontinuously, and explore the effects that global constraints have on the ultimate stability of the surface.