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Sayan Mukherjee* (sayan@stat.duke.edu), 112 Old Chemistry Building, PO 90251, Durham, NC 27708, and **Tingran Gao, Katherine Turner, Doug Boyer, Washington Mio and Jacek Brodzki.** *Modeling shapes and surfaces.*

I will introduce a geometric/topological transform that allows for the modeling of shapes and surfaces without requiring landmarks. We discuss applications of this to morphological analysis of primates as well as the analysis of melanoma. I will also outline how the transform can measure distances between shapes as well as place probability models on shapes and surfaces. I will also discuss approaches using conformal geometry to model surfaces. (Received September 13, 2016)