1086-VG-527   **Jack T Stangl*** (`jackstangl@yahoo.com`). *Characterization of Melanoma and Moles using Invariant Histograms.*

This research is an exploration into mathematical biology, specifically the detection of malignant melanoma amongst benign moles. We propose that melanoma samples possess distinguishable border differences from mole samples, often undetectable to the human eye. We utilize mathematical methods including Invariant Histograms to detect and quantize this difference for diagnosis, looking closely at the irregularity of melanoma and mole sample borders. This approach relies heavily on the generation of cumulative distance histograms and subsequent statistical analysis. (Received September 05, 2012)