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Carmen Wright* (carmen.m.wright@jsums.edu), **Jasleen Kaur**, **Abigail Newsome** and **Charles Bland**. *Using Classification Algorithms to Predict Promoter Regions in E. Coli Based on DNA Structural Properties.*

One of the major challenges in biology is the correct identification of promoter regions. Computational methods based on motif searching have been the traditional approach taken. Studies have shown that DNA structural properties related to the bendability, curvature, and stability under certain stresses of the DNA structure itself are useful in promoter classification, as well. In particular, we compare the three structural properties of free energy, curvature, and stress-induced duplex destabilization (SIDDD) for their effectiveness in correctly identifying promoters with several classification algorithms, including Naive Bayes, K-nearest neighbors, and the decision tree. (Received September 26, 2017)