1077-92-1697   **Jill P. Mesirov*** (`mesirov@broadinstitute.org`). *Machine Learning Approaches for Genomic Medicine.*

The sequencing of the human genome and the development of new methods for acquiring biological data have changed the face of biomedical research. The use of mathematical and computational approaches is taking advantage of the availability of these data to develop new methods with the promise of improved understanding and treatment of disease. I will describe some of these approaches as well as our recent work on a Bayesian method for integrating high-level clinical and genomic features to stratify pediatric brain tumor patients into groups with high and low risk of relapse after treatment. The approach provides a more comprehensive, accurate, and biologically interpretable model than the currently used clinical schema, and highlights possible future drug targets. (Received September 20, 2011)