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**Lior Pachter\*** ([lpachter@math.berkeley.edu](mailto:lpachter@math.berkeley.edu)), 970 Evans Hall, Department Mathematics, UC Berkeley, Berkeley, CA 94720. *The posterior map.*

We will discuss the statistical relevance of computing various kinds of posterior probabilities when working with algebraic statistical models. Examples will be drawn from sequence alignment, where we explicitly show how to compute the different kinds of posterior probabilities for suitable priors on parameters. Finally, we conclude with some speculations on the challenges and possibilities for Bayesian analysis of algebraic statistical models. (Received September 28, 2005)