1056-13-2006 **Anne Shiu*** (annejls@math.berkeley.edu), Dept. of Mathematics, University of California Berkeley, Berkeley, CA 94720-3840, and **Bernd Sturmfels**. *Computing siphons in biochemical reaction systems.*

In a biochemical reaction network, the concentrations of chemical species evolve in time, governed by the differential equations of mass-action kinetics. Siphons in a chemical reaction system are subsets of the species that have the potential of being absent in a steady state. This talk presents a characterization of minimal siphons in terms of primary decomposition of binomial ideals, and demonstrates the effective computation of siphons using computer algebra software. (Received September 22, 2009)