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Martin Feinberg* (feinberg@chbmeng.ohio-state.edu), Ohio State University, Columbus, OH. *Chemical Reaction Network Theory: The Strange Relationship of Chemistry, Biochemistry and Mathematics*

Mathematicians, chemists, and biochemists have prejudices about how polynomial differential equations generated by chemical reaction networks should behave. In some cases these prejudices are useful guides to behavior, but in other cases they are very misleading. In this talk, I will try to discuss mathematical foundations for some of these prejudices and also indicate where they go wrong. Much of what I say will be based on joint work with Gheorghe Craciun. (Received February 16, 2009)