

1098-92-161

**David A Edwards\*** ([edwards@math.udel.edu](mailto:edwards@math.udel.edu)), Department of Mathematical Sciences, Ewing Hall, University of Delaware, Newark, DE 19716. *Increasing the Utility of Optical Biosensors.*

The ubiquity of surface-volume reactions makes knowledge of their kinetics critical. To that end, several optical biosensors have appeared on the market to measure rate constants. In this talk, we focus on an extended application of such biosensors. Traditionally, the biosensors have been considered limited to two-component reactions because they measure mass changes at the sensor surface. However, many biological reactions of interest involve multiple steps and multiple components. A model is presented which shows how certain multistep reactions can be analyzed easily with these devices. (Received January 23, 2014)