1033-34-20 **Shangbing Ai*** (ais@email.uah.edu), Department of Mathematical Sciences, University of Alabama in Huntsville, Huntsville, AL 35899. *Traveling Waves in a Bioremediation Model.*

In-situ bioremediation makes use of microorganisms to transfer hazardous chemicals into non-toxic products in places where contaminants are a concern. Through injection of growth nutrients and electron acceptors into the contaminated site, the organic pollutants serving as substrates are broken down through the metabolism of the microorganisms. This is a complex process which involves physical, chemical, and biological reactions. Mathematical modeling has been used for understanding this process and identifying the key factors therefore to provide guidance in the improvement of in-situ bioremediation technology. In this talk, traveling wave solutions will be discussed for a bioremediation model that describes the interactions between a single microbial species, a dissolved contaminant, and an injected nutrient. (Received July 17, 2007)