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**Avner Friedman** and **Najat Ziyadi\*** (najat.ziyadi@morgan.edu), 1700 East Cold Spring Lane, Baltimore, MD 21251, and **Khalid Boushaba**. *A mathematical model of drug resistance with infection by health care workers.*

Antibiotic resistant organisms (ARO) pose an increasing serious threat in hospitals. One of the most life threatening antibiotic resistant organisms (ARO) is methicillin-resistant staphylococcus aureus (MRSA). In this talk, we will introduce a mathematical model which focuses on the evolution of two bacterial strains, drug-resistant and non-drug resistant, residing within the population of patients and health care workers in a hospital and we will discuss the results of the model predictions. (Received September 19, 2011)