MATERIALS ENGINEERING SEMINAR

Date: Thursday, July 14, 2011

Time: 3:00pm Seminar

Place: ARMS 1109

Purdue Materials: Infinite Possibilities

"Bacteriosafe: A European Union Collaboration for Active Wound Dressings based on Biological Mimicry" Also featuring information about German research and study, for those interested

by

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ABSTRACT

The aim of the BacterioSafe consortium is to construct, test and develop a unique active wound dressing, which incorporates novel colourimetric sensor and active therapeutic processes for detecting and counteracting pathogenic bacteria in wounds. The inspiration of this project is the natural nano-biological mechanism of bacterial attack of healthy cells. We mimic this natural process by using these pathogenic factors to liberate engineered and biologically derived antibiotics/antimicrobials and indicating molecules from highly designed surface immobilized nanocapsules. These are immobilised on currently available wound dressing materials such as polypropylene or polyethylene non-wovens using plasma assisted processes. This will minimize the need for frequent traumatic changes of wound dressings and will provide a simple optical indicator of bacterial infection.

This is particularly critical in burn wounds where delayed detection of bacterial infection can result in patient death.