Contribution ID: **431** Type: **Poster**

SYNTHESIS OF TiO2 DOPED SELENIUM NANOPARTICLES USING HERBAL TURMERIC POWDERS COATING ON COTTON FABRIC FOR ANTIBACTERIAL

Monday, 21 May 2018 18:30 (15 minutes)

Present work to investigation of structure and functional properties of nano materials based on the Titanium dioxide doping Selenium oxide and Turmeric coated cellulose fibers of gauze pad cotton. The Titania hydrosol was successfully prepared at low temperature by a microwave facilitated sol-gel method. The study also explored the efficiency of this sample to inhibit the growth of Escherichia coli and Staphylococcus aureus with various samples of Titanium dioxide, Titanium dioxide doped Selenium oxide and Titanium dioxide doped Selenium oxide with Turmeric powder. The morphology and composition of the surface pure and Titanium dioxide coated gauze pad cotton fibers were investigated by the SEM. The physical properties result showed the smaller size of Selenium oxide dope compound crystal (11.06 nm.) than undoped crystal (15.80 nm.) by the XRD test. The antibacterial activity against Escherichia coli and Staphylococcus aureus under ambient temperature showed that cotton coated with Titanium dioxide, Titanium dioxide doped Selenium oxide and Titanium dioxide doped Selenium oxide with Turmeric nanoparticles enhance bacterial inactivation efficiency completed 100% within AATCC*Test*Method*100-2004 standard.

Primary author: Dr MASAE, Mahamasuhaimi (Department of Industrial Engineering, Faculty of Engineering, Rajamangala University of Technology Srivijaya, Songkhla, 90000 Thailand)

Presenter: Dr MASAE, Mahamasuhaimi (Department of Industrial Engineering, Faculty of Engineering, Rajamangala University of Technology Srivijaya, Songkhla, 90000 Thailand)

Session Classification: A01:Biological (Poster)

Track Classification: Biological Physics and Biomedical Engineering