



BIOTECHNOLOGY SOCIETY OF NIGERIA
(BSN)

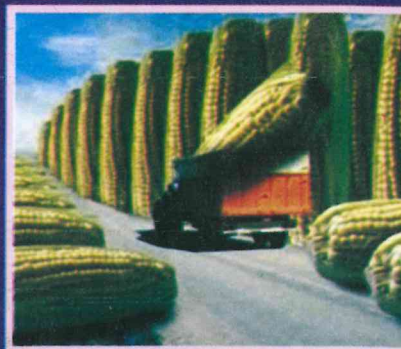


FEDERAL UNIVERSITY OF TECHNOLOGY
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Theme:

**BIOTECHNOLOGY AS A CHANGE AGENT
FOR NATIONAL DEVELOPMENT**

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**Book of
ABSTRACTS**



ABSTRACT

In the present study, aqueous seed extract of bitter kola (*Garcinia kola*) was used for green synthesis of silver nanoparticles (AgNPs). The biosynthesized AgNPs were characterized by UV-vis spectroscopy, fourier transform infrared spectroscopy (FTIR) and scanning electron microscopy (SEM). The AgNPs were brown in color with maximum absorbance occurring at wavelength 437nm. The FTIR spectrum showed distinct peaks at 3267 and 1635 cm^{-1} indicating involvement of proteins in the capping and stabilization of the biosynthesized AgNPs. The particles were spherical in shape with size of 20-60nm. Furthermore, the synthesized AgNPs exhibited strong antibacterial activity against clinical isolates of *Staphylococcus aureus* and *Salmonella typhi* while remarkable antifungal efficacy was also demonstrated against strains of *Aspergillus niger* and *Aspergillus fumigatus*. The AgNPs incorporated as an additive into white emulsion paint completely inhibited the growth of *Staphylococcus aureus*, *Bacillus subtilis*, *Aspergillus niger* and *Aspergillus flavus*. Hence, the tremendous antimicrobial activities demonstrated by the AgNPs suggest its promising applications in biomedical field and in the manufacture of novel paint with antimicrobial property.

Keywords: silver nanoparticles, green synthesis, *Garcinia kola*, aqueous extract, antimicrobial property

BHD 012

SUBCHRONIC TOXICOLOGICAL STUDIES OF CALYX OF *Annona senegalensis* USED AS A SLURRY SAUCE

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ABSTRACT

Many plants and plant parts are eaten as food and provide humans with higher nutritional requirements than animals. Calyx of the flowers of *Annona senegalensis* is used as slurry sauce by the Nupe speaking people of Niger State, Nigeria. Sub-chronic toxicity studies of the methanol extract of the calyx was carried out for twenty eight days by oral administration once daily at of 250, 500 and 1000 mg/kg bodyweight to rats in groups one, two, and three respectively while the fourth group (control) received 0.5ml of normal saline. At the end of the experiment, rats were anaesthetized under chloroform vapor and blood samples were collected by carotid puncture for some hematological and biochemical parameters using Agape and randox kits. Extract