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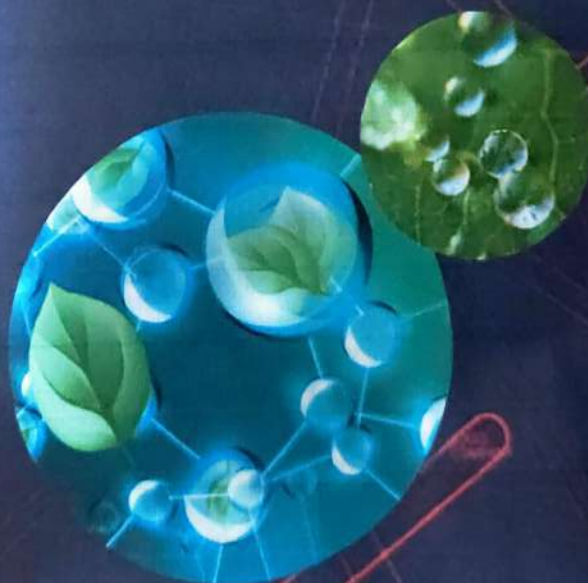
DEPARTMENT OF BIOCHEMISTRY AND IQAC
IN ASSOCIATION WITH
**INSTITUTE OF BIOINFORMATICS AND APPLIED
BIOTECHNOLOGY**

BIOTECH PARK, ELECTRONICS CITY PHASE I, BENGALURU

TWO DAYS NATIONAL CONFERENCE
On
**BIOCHEMISTRY – EMERGING SCIENCE AND
TECHNOLOGY**

14th and 15th March 2024

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Bharath J
PRINCIPAL

MMK & SDM Mahila Mahavidyalaya
Krishnamurthypuram, Mysore-570 004

Current Developments in Phytochemical Research and its Transdisciplinary Applications

**E-PROCEEDINGS OF THE TWO DAYS NATIONAL
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**PRELIMINARY PHYTOCHEMICAL ANALYSIS AND STUDIES
OF ANTIBACTERIAL ACTIVITIES OF *A. INDICA* LEAVES EXTRACTS
OF MYSURU REGION.**

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Neem (*Azadirachta indica*), an ancient medicinal tree is cultivated in various parts of the Indian subcontinent and belongs to the botanic family *Meliaceae*. The major phytochemicals present in Neem are glycoproteins, triterpenes, limonoids, Phenols, tannins, nimbins, saponins, catechins, azadirachtin and gallic acid which have properties like antibacterial, antifungal, antioxidants etc. Nanotechnology is blooming technique to enhance the effect of phytochemicals found in plant extracts. The fresh matured leaves of *Azadirachta indica* (Neem) were collected from MMK and SDM MMV campus, air dried and powdered. The solvent extraction of the obtained powder was carried out using aqueous and other solvents. The tests for Alkaloids, Saponins, Flavonoids, Tannins, Glycosides, and Steroids were conducted with different solvents extracts. The synthesis of Ag-NPs was done by adding 10 mL of *A. indica* (Neem) leaf extract to 50 mL of 1 mM aqueous AgNO₃ solution at room temperature. The antibacterial activity was carried out using disc diffusion method against *E. coli*. The phytochemical screening of the plant extracts showed the presence of phytochemicals in all the solvents; especially the positive results were obtained at higher version in the ethanolic extract. The disc diffusion tests showed higher inhibition zones at 5 µg/ml of Ag-NPs Neem extract. The effect of Silver nanoparticles with Neem extract was proven more effective, eco-friendly and cost effective against *E. coli* bacteria. The overall results suggested presence of phytochemicals in aqueous extract. The extracts of aqueous *A. indica* displayed antibacterial activity against *E. coli* in a dose dependent manner.

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