

Title of the Project:**LARGE SCALE SYNTHESIS OF SILVER NANOPARTICLES
BY GREEN CHEMISTRY APPROACH**Name of Principal Investigator: **Dr. Khursheed Ahmed**Name of the College: **Abeda Inamdar Senior College, Camp, Pune-411001**

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Summary: It is well known that nano-scale materials have optical properties that differ greatly from the bulk counterparts and such materials have been extensively studied [1, 2]. Metal nanoparticles suspended in a solution, are expected to be used as functional materials because of their special optical properties, magnetic properties, catalytic properties [3-5]. Such materials have found widespread use in several technological applications [6] and various wet chemical synthesis methods have been reported [7-8]. This field is, in certain ways reaching maturity and to go to the next step, it is becoming important to develop methods of scaling up the synthesis of these materials by Green Chemistry [9].

During the project work, silver nanoparticles were synthesized using citric acid from various citrate containing fruits as stabilizing as well as reducing agents. The effect of concentration of citrate ions on the shape and size of silver nanoparticles were also studied. The morphology of the colloids obtained found consisting mixture of nanorods and spheres. The products were characterized using different techniques viz. UV-visible, FTIR, XRD and SEM. Such sol of silver nanoparticles in water act as a good anti-microbial agent, hence can be used in the mentioned area.

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