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## **Biosynthesis of silver nanoparticles and their characterization**

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Silver nanoparticles (AgNPs) were synthesized *in situ* under white light at room temperature using aqueous Silk Fibroin (SF) solution obtained from *Bombyx mori* silk. SF acted as the reducing, dispersing and stabilizing agent for the resulted silver nanoparticles. These nanoparticles were characterized by UV-Visible spectroscopy, Fourier Transform Infrared spectroscopy (FT-IR), Photoluminescence (PL) and Transmission Electron Microscope (TEM) techniques. The UV-Vis spectroscopy revealed the formation of AgNPs by showing a typical Surface Plasmon Resonance (SPR) band at 422 nm from the UV-Vis spectrum. The TEM images show that formed nanoparticles were roughly spherical in shape with smooth edges. The particle diameter was around 35-40 nm. Further, the X-ray diffraction (XRD) analysis confirms the nano-crystalline phase of silver with FCC crystal structure.

### **Biography**

Sangappa Y is an Associate Professor at the Department of Physics, Mangalore University, India and is currently a Post Doc Fellow at School of Materials Science and Engineering, Georgia Institute of Technology, Atlanta GA-30332, USA. He completed his PhD in 2008 from the University of Mysore. He attended and participated in many National and International conferences. He published more than 35 articles in reputed journals and 17 articles in conference proceedings including *AIP*. His areas of competence for the research activity are natural polymers, fibers, biomaterials, green synthesis of nanoparticles, and ionizing radiation effects on polymers.

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