

# Homogeneous Silver-Coated Nanoparticles and their Application for Fluorescence Enhancement

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## Background:

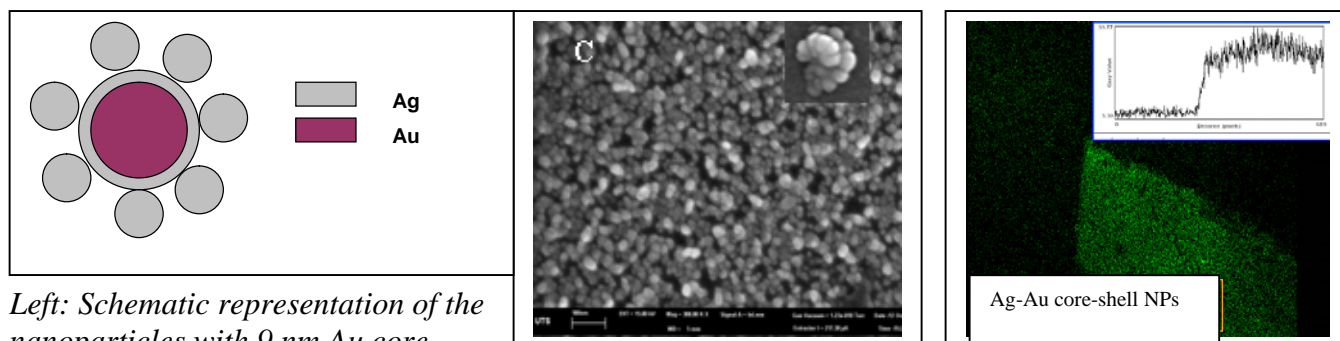
Metal nanostructures have been shown to enhance fluorescence, in a process resembling Surface Enhanced Raman Effect. Our work focuses on using such nanostructures for producing large scale homogeneous fluorescence enhancing flat surfaces and other media such as porous membranes. These will find applicability as an aid in fluorescence diagnostics in various areas of biotechnology and life sciences.

## Outcomes:

**Technology to enhance fluorescence adapted to the demands of real diagnostics in life sciences**

## Progress to date:

A simple method has been developed for the deposition of uniform silver-coated nanoparticles on glass substrates, with a homogeneous distribution. The nanoparticles have been shown to enhance fluorescence by a factor of about 10.



*Left: Schematic representation of the nanoparticles with 9 nm Au core.*

*Middle: SEM image of the homogeneous substrate. Insert shows an individual nanoparticle .Right: Fluorescence enhancing substrate. Insert shows uniformity of fluorescence.*

## Funding is sought to:

- extend this study to bioassays and other diagnostic technologies

## Timeline:

Results for new bioassays are achievable reasonably quickly, possibly within six months. Progress with other diagnostic technologies will depend on the complexity of their requirements.