

Gold nanoparticles – from the Lycurgus cup to cutting-edge technology

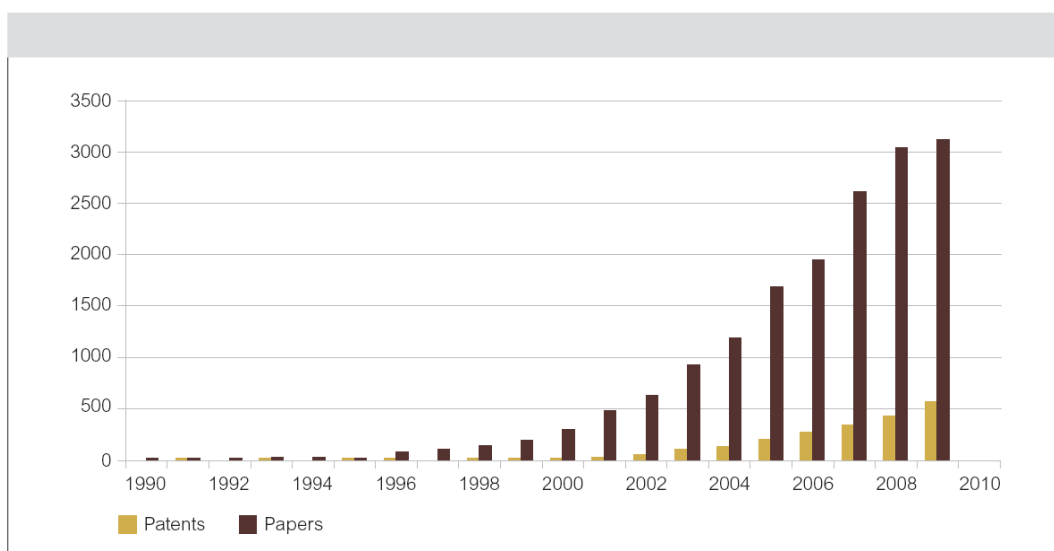
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Whilst the term ‘nanotechnology’ is unfailingly modern, much of the science underlying this all encompassing word has been unwittingly practised for millennia. An emotive example of this is that of the Lycurgus cup, the beautiful Roman artefact which, when held up to the light, mysteriously changes colour from an opaque green to a translucent red. Of course, scientific progress has ensured that this is no longer a ‘mystery’ - the glass contains small quantities of colloidal gold and silver which interact with light to produce this effect.

Recent decades have seen a series of experimental and theoretical breakthroughs in the field of nanotechnology. Gold nanoparticles have been at the forefront of this scientific revolution, particularly in recent years where there has been an explosion of activity¹. New applications are now emerging in several key fields including the treatment and diagnosis of cancer, clean technologies and electronic applications.

Presented here is a brief history of nanoparticulate gold, an overview of some of the most exciting new applications and commentary on where the field may lead in the coming years.



¹Number of published papers and patents including the words ‘gold’ and ‘nanoparticles’