

New way of making 'nanostructured films' wins innovation fellowship

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A University of Leicester project which will have implications for the quality of magnetic recording has won a prestigious Innovation Fellowship, allowing researchers to develop its commercial potential.

Chris Binns, Professor of Nanoscience at the University's Department of Physics and Astronomy, heads the project, which is a collaboration with Dr Robert Lamberton of Seagate and Dr Roer Bayston of the Queen's Medical Centre at Nottingham. The project aims to develop a new facility that is capable of coating a surface with metal nanoparticles at a very high rate.

This is a new way of making metal films. Instead of coating a surface in vacuum with atoms as with a conventional evaporator, the element is first formed into tiny nanocrystals, typically containing a few hundred atoms. These pre-formed nanoparticles are then deposited onto surfaces.

It is a generic technology for making "nanostructured films" and it has applications for the magnetic recording industry in making very high performance magnetic films. The work with magnetic films has been done in collaboration with Seagate.

More recently Professor Binns' research team have moved in a new direction, by making anti-microbial coatings by depositing silver nanoparticles. This could have important applications in surgical implants and is being carried out in collaboration with the Queen's Medical Centre in Nottingham.

The target of the research is to have the high-flux source depositing nanostructured films for testing prototypes in magnetic read/write heads and in antimicrobial coatings.

At the University, Professor Binns is working with Dr Mark Everard, whose post is funded by the Innovation Fellowship.

The project has also received £54,000 for 12 months from Seagate up to April 2005, and Professor Binns is now negotiating with Seagate for a new tranche of funding.

Source: University of Leicester

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