

'Nanopatches' to replace needles

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People who fear needles may one day have no need to fear the doctor, with the help of a funding injection for The University of Queensland's Professor Mark Kendall.

Professor Kendall today won a three year Queensland Government Smart State Senior Fellowship, gaining \$300,000 to research how nanotechnology may replace syringes in administering therapeutics.

His work could eventually replace needles with tiny 'nano patches' on the skin.

"There is an explosion of designer drugs requiring precise delivery to specific locations in the skin and we are producing new delivery methods that are practical and needle-free," Professor Kendall said.

"We are targeting immunologically sensitive cells to produce improved immune responses in the treatment of major diseases such as HIV, malaria and allergies.

"This has enormous potential, including for the delivery of cheap and more effective vaccinations in the developing world."

The grant boosts funding for Professor Kendall's project by \$540,000 over three years, as Queensland biotech firm Coridon intends to commit \$240,000 in cash and kind as the industry co-sponsor.

Professor Kendall is a UQ graduate who recently returned from the

University of Oxford, where he achieved excellent commercial success with a bioballistic gene gun. He was the Associate Director of the PowderJect Centre for Gene and Drug Delivery at Oxford.

He is jointly appointed to UQ's Australian Institute for Bioengineering and Nanotechnology (AIBN), Centre for Immunology and Cancer Research and Faculty of Health Sciences.

AIBN Director Professor Peter Gray congratulated Professor Kendall on his new fellowship and welcomed him to the AIBN. He said the fit between Professor Kendall's work and the aims of the AIBN made him a valuable addition.

"Mark has been recognised for his outstanding work in this area, most notably being awarded a Younger Engineer of Britain prize in 2004, with one of his technologies winning the Best Medical Innovation 2005 awarded by Popular Science Magazine," Professor Gray said.

"In his eight years of work in this field he has authored over 80 journal articles and conference papers, as well as being listed as an inventor on seven patents.

"His multi-disciplinary research spans biomedical engineering, diagnostics, dermatology and vaccinology and he has already established an important collaboration with Australian of the Year Professor Ian Frazer at UQ's Centre of Immunology and Cancer Research, as well as substantial links to the University's Faculty of Health Sciences.

"We expect more collaborations to develop as Mark's research programs expand."

UQ's Deputy Vice-Chancellor (Research) Professor David Siddle said he was excited by Professor Kendall's Smart State Fellowship.

“Our efforts in nanotechnology are positioned at the interface between biology and nanotechnology and Professor Kendall's work fits precisely in this space,” he said.

Professor Siddle also noted the importance of growing collaboration between the Australian Institute for Bioengineering and Nanotechnology and Professor Ian Frazer's Centre for Immunology and Cancer Research.

Source: University of Queensland

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