

MEDIA RELEASE

UQ teams up with USA experts to detect diseases before they appear

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University of Queensland (UQ) researchers are hoping to revolutionise the way cancer and diseases are detected.

Professor Matt Trau, Director of UQ's [Centre for Nanotechnology and Biomaterials](#), is heading up an international project that aims to investigate and test a set of unique, Australian-owned nanotechnologies that will accelerate advances in the early detection and diagnosis of many diseases.

"By testing and developing these nanotechnology platforms we hope to produce tools to give people an early warning that they have a serious disease," Professor Trau said.

"That early warning could mean the difference of getting medical intervention at a time when it is easy to administer and highly effective, or facing the prospect of massive and debilitating intervention when the disease has taken hold.

"There are currently few tools available for early diagnosis at the molecular level.

"And those that are available are difficult to use and cover only a small fraction of known diseases.

Nanotechnology offers the possibility to create devices which can screen for disease biomarkers at very fast rates.

The tools will be developed by identifying biomarkers for particular diseases that can then lead to diagnostic tests.

"Once biomarkers are found, we can assess them for clinical use," he said.

"Potentially hundreds of biomarkers could be found, paving the way for the development of many new diagnostic tests."

He said apart from the potential medical benefits, by developing the technologies in Queensland this research provides a tremendous opportunity for commercial success.

"And success in this can also be expected to reduce the economic and social costs of disease," Professor Trau said.

This research draws together the expertise of a team of outstanding researchers from the Australian Institute for Bioengineering and Nanotechnology at The University of Queensland, the Fred Hutchinson Cancer Research Centre (USA), the University of Washington (USA) and the Seattle Biomedical Research Institute (USA).

This project is supported by a contribution of \$2 million from the Queensland State Government through the National and International Research Alliances Program. In

addition to Alliances funding, the project will receive support from the participating institutes and UQ spin-off company Nanomics Biosystems Pty Ltd.

UQ Deputy Vice-Chancellor (Research) Professor David Siddle, said the awarding of Smart State funding represented recognition of the importance of establishing international collaborations in this area to enable continuing excellence in biological research and in biotechnology.

“This project addresses a critical gap in the process of early diagnosis, that is, the lack of effective tools for diagnosing disease at the molecular level,” Professor Siddle said.

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