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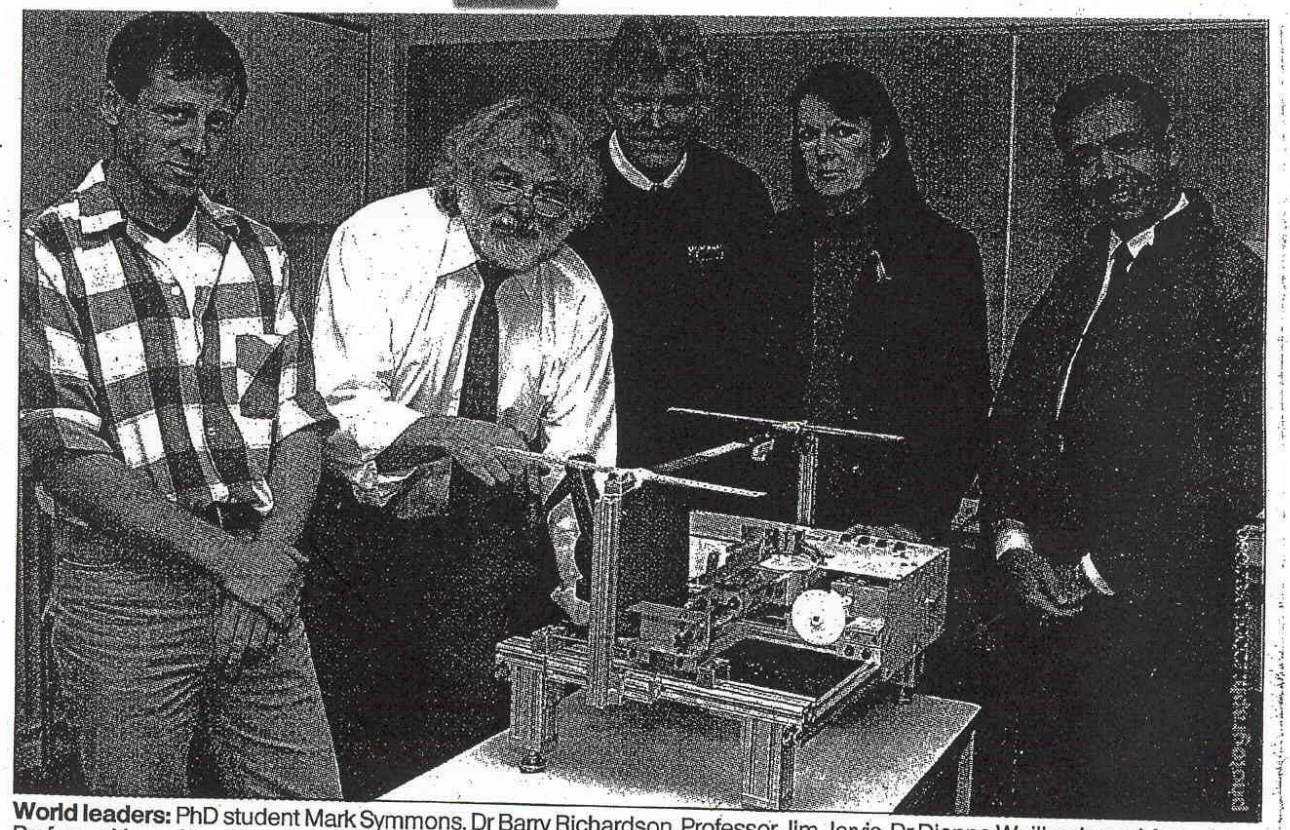

**World leaders:** PhD student Mark Symmons, Dr Barry Richardson, Professor Jim Jarvis, Dr Dianne Wuillemin and Associate Professor Yousef Ibrahim with their world leading technology.

# World first at Monash

By NEIL HICKEY

A MONASH University Gippsland virtual reality project - the first of its kind in the world - could have the ability to improve pursuits ranging from life-and-death surgery to your golf swing.

The university last month received a $360,000 Federal Government grant to develop the new Bionics and Cognitive Science Centre which senior lecturer Barry Richardson said was revolutionising virtual reality technology.

"At the moment virtual reality consists of a box which you put on your head and you see and hear things as you move your head around. It's like you're in a natural environment," Dr Richardson said.

"But what we don't have yet (from a mass market point of view) is a way of presenting objects you can feel that aren't really there."

One of the main aspects of the project is the Tactile Display System, which records the deliberate movement of - in this case - a finger and can then replay the exact path and speed of that movement to guide someone else.

"What it enables us to do is compare whether or not you do better by being left on your own to actively explore something or to be guided instead," Dr Richardson explained of the project which he has been developing since 1996.

"You can record an expert's movements and then get someone else in to that machine and be forced or guided to do exactly the same movements. And the question we would ask ourselves then is: is it better to be forced to do something the way an expert would than to just learn in your own way? And we have evidence that says some

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times it is better to learn some motor skills passively instead of actively. To be guided to do something instead of using a trial and error system." Dr Richardson said the technology had massive potential for any number of industries, including surgery, driving, tennis, cricket, or flying.

In news sure to be welcomed by the average weekend hacker, Dr Richardson said the technology also had the potential to have golfers swinging like Tiger Woods (if the world number one were to submit to having his swing recorded by the technology).

"Whatever the skill movements are, it might be better being led through it by a machine that has been programmed by an expert," he added.

"It's very expensive to train a pilot, for example, and with the current simulation systems that they've got, the idea is you sit in there and learn, and instead of dying every time you make mistakes you keep getting better.

"But if you take a top pilot, record all their movements, and then guide someone through those movements they might learn it a lot quicker than through trial and error."

The technology has already aroused interest internationally for the potential to educate the blind, according to Dr Richardson.

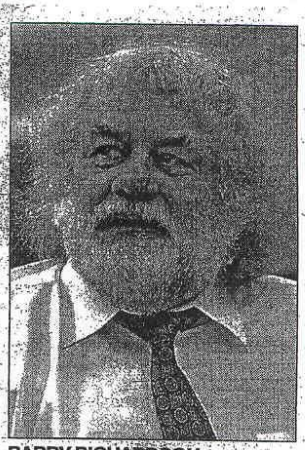
The long term hope is this project could see industry flock to the Valley to tap in to the university's advancements in virtual reality technology.

"It gives us a chance to develop along the lines of Silicon Valley," he enthused.

"This will be good for Gippsland, to have world leading, cutting edge technology being developed here."

To capitalise on the university's research into cognitive science, the university will next year become the first in Australia to offer a Bachelor's degree for the discipline.

Monash's first intake is expected to take 20 to 25 first year internal students as well as many more external students.



BARRY RICHARDSON