

Grant Paves The Way For Cutting Edge Research

By Ryan O'Shaughnessy

Monash Gippsland is set to be at the forefront of bionics and cognitive science research following a \$360,000 grant provided by the Commonwealth Government.

Approved by the Gippsland Advisory Council in Traralgon, the grant falls under the government's Sustainable Regions Program aimed at promoting hi-tech research in regional areas.

Dr Barry Richardson, acting Director of Bionics and Cognitive Science, runs the research unit under the School of Humanities, Communications and Social Sciences.

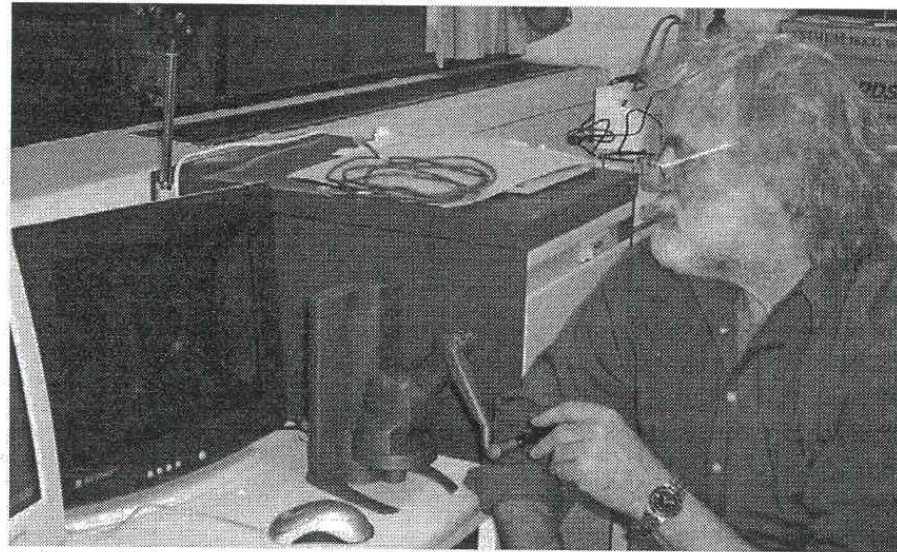
"We feel it is important that country regions such as Gippsland get involved in hi-tech industries and become part of a smart country, and the funding reflects that," Dr Richardson said.

Influenced by German Gestalt Theory, meaning goodness of form, the research unit is currently developing applications for 'The Phantom', a haptic space feedback device (haptic space is the space that we experience through touch) that allows us to feel synthetic touch.

By way of a mechanical lever, one can navigate their way through a virtual room on a two dimensional screen. By pushing a cursor around the room with the lever, resistance is felt as the cursor runs into a wall or object.

If the cursor is slid under one of the objects and pulled upward it is possible to feel the weight resistance of that object. All parameters of the room and its contents may be sensed by using the lever.

"The idea is to use the 'Phantom' to explore a world of virtual objects," Dr Richardson said.



Dr Barry Richardson in his world of virtual reality

This type of research has many applications, such as utilising 'The Phantom' to aid the blind in exploring Internet pictures. With such a device the blind may be able to experience a kind of vision through virtual touch.

Medical professionals may also use this technology for performing tele-surgery, in which a surgeon works on a video picture of a patient who may be a thousand kilometres away. If the research is successful, surgeons may be able to feel the patient as if they are actually in the same room.

The sizeable grant will provide Dr Richardson and associate Dr Diane Wullemin with the means to provide for equipment, programmers, consultants, conferences, and travel over a period of three years.

Future operations with major corporations such as British Telecom (BT) and the Commonwealth Scientific and Industrial Research Organisation (CSIRO) are being undertaken, as well as a cooperative agreement with Melbourne's Swinburne University.

The team members are also looking to network with Telstra, although there have been no agreements made to date.