



## CAUGHT ON CAMERA

NEW TECHNOLOGY THAT ALLOWS CAR NUMBER PLATES TO BE SCANNED IS PREDICTED TO HAVE A WIDE RANGE OF APPLICATIONS IN LAW ENFORCEMENT, SERVICE INDUSTRIES AND FINANCIAL INSTITUTIONS.

A UQ team has created two software bundles that read and display traffic signs and number plates as you drive.

Both systems use a conventional video camera to feed the software which runs under Windows on a Pentium computer.

"It's very easy to put a camera in and take video of traffic, but to get any information out of it at present, you need to have a person watching it," UQ Associate Professor Brian Lovell said.

"But how do you do it without the person?"

So Dr Lovell, research director of UQ's Intelligent Real Time Imaging and Sensing Group (IRIS), asked his information technology and engineering students.

He got a range of answers and they tweaked the best methods for what they call an intelligent traffic system.

The system finds objects that look like signs from the camera's field of view then matches them from a database.

The plate recognition software pinpoints the plate, then reads and matches the numbers and letters.

The software could also be used in toll road fee collection, parking fee collection, traffic control, police enforcement, security and traffic planning.



## STAR SEARCH

ALTHOUGH SIR ROBERT HELPMANN WAS ONE OF AUSTRALIA'S MOST FAMOUS INTERNATIONAL PERFORMING ARTS STARS, HIS WORK AND LIFE IN AUSTRALIA HAVE RECEIVED LITTLE ACADEMIC ATTENTION.

That has changed thanks to Dr Anna Memrose from the UQ Faculty of Arts whose PhD thesis was entitled *A Servant of Art: Robert Helpmann in Australia*.

As well as researching private and public collections, Dr Memrose interviewed many of Helpmann's professional collaborators in Australia and overseas.

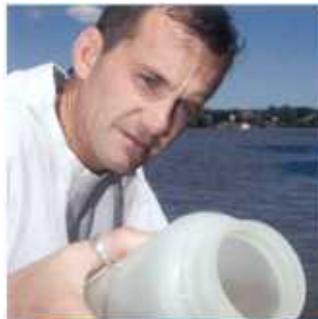
These included Garth Welch, Richard Bonyng, Peter Sculthorpe, Dame Alicia Markova and the late Dame Ninette de Valois.

Dr Memrose said while there was information on Sir Robert's work during his time overseas, little work had been done on the period before he left Australia or after his triumphant return.

"Most people seem to think he went to England and that was where he learned his craft, but even before he left Australia he had explored most aspects of the arts," Dr Memrose said.

"He had been involved in experimental theatre in Adelaide and had already choreographed his first ballet.

"While Helpmann's artistic versatility led him to explore many areas of the arts, it was initially ballet that drew him back to Australia to work with the Australian Ballet, which he showcased to the world."



## RIVER LOSES BLUES

A UQ PHD STUDENT IS INVESTIGATING WHY THE BRISBANE RIVER CHANGED FROM BLUE TO BROWN.

Luis Neumann has been researching the sediment processes in the river responsible for the turbidity or "dirtiness" of the water.

Mr Neumann's innovative thesis is unusual in that his research methods span the fields of both chemical and environmental engineering.

Using equations known as population balances to calculate changes to the population of cohesive sediments in the river, he demonstrated the sediment did not have enough time to settle, giving the river a dirty appearance.

"Today's large tidal intrusion means tidal velocities are much higher than in the past. The larger the tidal velocity, the higher the bottom shear stress that erodes the river bottom and the higher the turbulence that keeps the particles in suspension," he said.

Mr Neumann is examining the process known as flocculation through which suspended solids in the river collide and stick together to form flocs.

He said in the past, researchers had assumed values for parameters affecting flocculation whereas he had been able to quantify the influence of different parameters.

Mr Neumann said the size and shape of the flocs affected sediment transport and light penetration, factors largely responsible for the river's colour.



## REWRITING HISTORY

USING PREVIOUSLY UNEXAMINED WORLD WAR II JAPANESE AND US ARCHIVAL RECORDS, A UQ PHD GRADUATE HAS UNEARTHED FRESH HISTORICAL DISCOVERIES RELATING TO THE JAPANESE ATTACK ON PEARL HARBOR IN 1941.

Dr Peter Mauch has questioned previously held historical opinion relating to the assumptions underlying American and Japanese government policy.

He argues that prior to the attack on the American naval base, Japan's ambassador to the US, Admiral Nomura Kichisaburo, offered his colleagues an "accurate, penetrating, forceful and even courageous assessment of the likely outcome of Japan's aggressive path".

"This flies in the face of existing knowledge and beliefs, which condemn Nomura as an ineffective diplomat," Dr Mauch said.

"I reached these conclusions after extensive use of the Japanese diplomatic archives, something which to my knowledge not even Japanese historians have undertaken."

Dr Mauch, a lecturer in 20th century Japanese diplomatic history at Doshisha University, says Nomura's interpretation of events differed from most of his colleagues in Tokyo.

"He presented Japanese policymakers with a dilemma they were loath to confront, American acquiescence to Japan's plans could only be guaranteed by the use or threat of force, yet the force it could muster was a fraction of that which the US had," he said.