

No two days the same for UC's scientific glass-blower

From the creation of custom-made scientific glassware to fine arts projects, there is never a dull moment in the University of Canterbury's Glass Workshop.

Based in the Department of Chemistry, the workshop is run by Rob McGregor who has been creating and remodelling a range of glassware for staff and students at UC since 1980.

A scientific glass-blower, Mr McGregor's main role is to make specialised glass items for specific experimental use as well as repair or modify standard glassware such as beakers, flasks or pipettes. All standard glassware is purchased outside the University rather than made in the workshop.

However, Mr McGregor said that as the University's glass-blower his skills were available to all departments.

"If anyone needs anything done in glass they can come to me and, other than replacing broken windows, I can usually help them out."

Among the more interesting creations he has worked on is a spirit level device for measuring the height of horses. He also has a drawer full of glass animals that he has made on request over the years, among which is an octopus, a sea horse and a dragonfly.

"Fine arts are usually quite good for more interesting things," Mr McGregor said.

"I once had to make a glass chair — full-sized — for a fine arts student. It went on display and didn't look too bad until some clown tried sitting on it," he said.

He also once remodelled a gold-coated mirror for a research team from NASA's Jet Propulsion Lab. The mirror was to be fitted to a modified U2 aircraft which was to make a long-distance data-gathering flight around the Subantarctic Islands.

"The aircraft carried instruments for several different teams, but the mirror was a critical component of one particularly expensive project. Unfortunately the day before the flight was scheduled it was discovered that the mirror wouldn't fit the mount on the aircraft and I was asked if I could reshape the mirror without damaging its delicate gold coating. I was told, 'No pressure, but a one million dollar project is on the line'.

"Fortunately, with the assistance of Physics and Astronomy technician Graham Kershaw, I successfully completed the job and the U2 took off the next day — with mirror on board."

However, the bulk of his work is making scientific glassware from scratch.

"If it's a piece of equipment that needs to be imported it can take a long time to arrive, sometimes months, and it can be very expensive getting it here," Mr McGregor said.

"For a student, that time delay can be a problem so if I'm given a drawing or picture of



Canterbury University's scientific glass-blower Rob McGregor works on a new project in the Glass Workshop.

what it is they want I can make it here in the lab in much less time. Sometimes I'm asked to create completely customised glassware for a specific experiment and, if it's quite complex in construction or design, it can be like putting together a puzzle — you have to think ahead to find the best way of constructing it."

As well as catering for University needs, Mr McGregor also does work for businesses outside the University, such as laboratories and schools.

"Right from its inception, the workshop has done work for businesses around the Canterbury region. Sometimes we get requests from outside Canterbury and occasionally I

get contacted by people who used to work at the University or studied here who want me to make something they can't get where they are. Most universities have scientific glass-blowers — that's pretty traditional — but not a lot of other places do."

Much of Mr McGregor's work is done using an oxygen/LPG flame from a burner, tweezers to hold the glass and tools to press it into shape. For bigger items the glass is held in a glass-working lathe.

"I've always enjoyed working here as there's always a variety of work coming in and I'm never sure of what I'm going to be asked to make from one day to the next."