

Top sports star

“After a brick wall collapsed and left her a paraplegic”

Victoria University has named world-class water-polo player Jarrod Gilchrist and wheelchair tennis champion Daniela di Toro as its male and female athletes of the year for 2009.

The VU Sports Awards recognise the outstanding sporting achievements of VU students in regional, national and international championships.

Gilchrist, 19, a Hurstbridge resident, was part of the gold-medal-winning Australian National League all-star team at this year's World University Games in Belgrade, Serbia. The team made history as the first non-European team to win top spot at men's water polo at the Games, bringing home Australia's first University Games gold medal in the sport.

Gilchrist is in his second year of a Bachelor of Applied Science, with a speciality in Physical Education. He has been involved in water polo at an elite level for several years. He was selected for the Australian school boys' team in 2006, and named that league's most outstanding player in 2008. During his short time at VU, he has worked toward establishing a VU water polo team to compete at the annual Australian University Games.



Toro, 34, is in her final year of a Bachelor of Chinese Medicine (Acupuncture and Herbs). The Thornbury resident is a four-time Australian Paralympian and 10-time Australian Wheelchair Open champion. Toro claimed the world number one ranking in 1998 and 1999, in addition to winning more than 300 other professional titles. She is now ranked sixth in the world in women's wheelchair tennis.

Toro's remarkable sports career started soon after she registered for her first wheelchair tennis competition at age 14 – less than a year after a brick wall collapsed on her at a suburban swimming pool and left her a paraplegic.



Milky Way's strong attraction

Monash-led research has revealed the magnetic field at the Milky Way's core is at least 10 times stronger compared to the rest of the galaxy.

The discovery was made by a team of astrophysicists from Monash University, Max-Planck-Institute for Nuclear Physics, the University of Adelaide, and the University of Arizona in the United States.

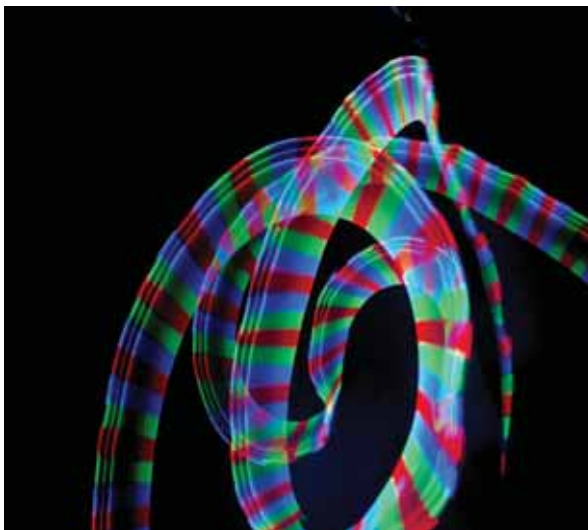
Lead-author Dr Roland Crocker said the findings would change the way the scientists measure galaxies.

“The work is significant because the strength of the field at the galactic centre is an important factor in many astrophysical calculations,” Crocker said.

Calculations about the Milky Way's magnetic field have been in dispute for more than two decades.

“The break-through implies that something like 10 per cent of the galaxy's magnetic energy is concentrated in less than 0.1 per cent of its volume.”

Crocker said the findings also raise new questions, such as how and why the Milky Way's magnetic field is so intense.



More download

Ground-breaking optical fibre technology developed by Monash researchers could drastically boost the capacity of strained broadband networks and improve download times around the world.

The innovation, pioneered by Professors Arthur Lowery and Jean Armstrong, is known as optical Orthogonal Frequency-Division Multiplexing, or oOFDM.

The technology applies ADSL principles -- already used to expand the capacity of data transfer over traditional copper and wireless broadband -- to optical fibre cables, potentially increasing their data capacity tenfold.

“The appeal of oOFDM is that it offers an inexpensive means of dramatically increasing long-haul capacity from the current transmission rate of 10 Gigabits per second to more than 100 Gigabits per second, over new and existing optical fibre,” Professor Lowery said.



Eat for mental health

Women who eat a healthy diet may reduce their risk of developing anxiety and depression according to new research led by the University of Melbourne.

The study found that women with a diet high in vegetables, fruit, fish, wholegrain and lean meat were less likely to have depressive and/or anxiety disorders, while those with a diet high in processed foods and 'junk' were more likely to suffer from these disorders.

Lead author of the study, Dr Felice Jacka, from the Department of Clinical and Biomedical Sciences at the University of Melbourne, and Barwon Health's Clinical and Biomedical Sciences, says that even after taking into account other demographic and lifestyle factors such as age, socioeconomic status and exercise, these findings persisted.