It is likely that there has been life on Mars, according to UWA researchers.

Geologists in the School of Earth and Geographical Sciences are working on drill core samples from the Pilbara that will be used to help NASA to locate evidence of life on the red planet.

“We’re not talking about little green men here,” said UWA research fellow Dr Mary Gee. “Most likely they will be simple life forms. The areas on Mars to be targeted for exploration will be guided by information yet to be extracted from the Pilbara drill core about conditions on the early Earth,” she said.

Mary was part of an international geological expedition to the Pilbara in June-July, which was partly sponsored by NASA.

The Pilbara’s ancient rocks are the best preserved specimens in the world and Mary explained that many scientists think that Earth and Mars evolved in a similar way for the first couple of thousand million years.

“The only way we can work out the ancient natural history of the Pilbara, or Mars for that matter, is by studying the rocks. They are a record of the composition of the atmosphere as well as the evolution of life, surface and larger planetary scale processes, including meteorite impacts!

“The problem with studying old rocks is that you are seeing everything that has happened to them since they were formed. Generally the greater the age of the rock the more likely it is to have a complex metamorphic history that has changed the rock chemistry and structure.

“But in the Pilbara, the rocks are unusually well preserved because unlike similarly aged rocks in Greenland, Canada and South Africa they have not been strongly deformed or metamorphosed, and still retain many original characteristics.”

Mary, an igneous geochemist, who until coming to UWA was more familiar with recent volcanic terrains such as Iceland, said that many people in WA thought all geologists were involved with the mining industry. “They don’t realise the enormous diversity of geology, after all there are ‘extra-terrestrial’ geologists!” she said. This new field of science that she and UWA colleagues, Associate Prof Mark Barley, Dr Bryan Krapez and Dr Birger Rasmussen, is involved in is called astrobiology.

She set up a display for UWA EXPO 2003, drawing crowds of curious people with her provocative banner: Mars is closer than you think.

“At UWA we have a tremendous opportunity to become world leaders in this new science of astrobiology because of our varied research skills and backgrounds.”

“The rocks we are looking at in the Pilbara are between approximately 2.7 and 3.4 thousand million years old, over half the age of the Earth. The main thrust of our research in the Pilbara is to work out what the atmosphere was like on the early Earth and by analogy, on Mars as well. We will also be searching for more evidence of early life.

The landscape pictured below — is it the Pilbara or Mars? This story continues on page 4 …
There are several large and muddy holes on our beautiful campus and many of you have asked me about them. Indeed, because they are also construction sites, you have also asked how long will you have to endure noise and trucks and concreting...

Well, despite the temporary disfigurement of, say, Riley Oval, and the distracting noise of building operations, the muddy holes point to hugely exciting developments for the future of UWA and our campus facilities.

In the south, behind the not very beautiful existing Chemistry building, work is well advanced on our enormously significant new Chemical and Molecular Science complex. It is the most expensive building we have made on campus ($60m) since the making of Winthrop Hall. It will give us a truly world-class teaching and research facility, and one which will also be a great State asset.

To the east, alongside the Arts buildings and involving a good deal of Riley Oval, is to be the equally 21st century building which will house an interactive learning centre (250 seat state-of-the-art lecture theatre and adjoining small seminar and conference rooms) as well as the long-awaited University Club of WA (replacing the venerable University House).

This big new structure is a visionary facility for UWA — combining an excellent conference and teaching centre with the social facilities of a club. The University Club will become a social centre of UWA, a welcoming and multi-purpose environment of quality hospitality bringing together all of us as staff, postgraduates, graduates of UWA and specially invited members who have a particular relationship with our University.

The two storeys of the University Club will represent these diverse facilities: downstairs, and looking across Riley will be a modern brasserie and cafe with verandah, while at the back (facing Social Sciences) will be a banqueting room able to take all 250 attendees at a lecture next door, or cater for conferences and meetings. Upstairs it will be even more club-like, with a quality dining room looking out on Matilda Bay, smaller rooms for dining and club meetings, an intimate cocktail area and quiet reading space.

In short, something for all of us, where we can meet colleagues and friends, undertake presentations and prize-givings, hold conferences and club meetings, even have a wedding reception. UWA already has a sense of tradition and spirit, but our new complex will be a powerful social face in developing our sense of community — and in connecting us to our graduates and community. The old University House will be gracefully retired and then demolished — allowing Riley Oval to again cater for all the many sporting activities and events it attracts.

Progress on both these complexes is good. The Chemical and Molecular Science building is scheduled to be ready for the new academic year in 2005; and while the Riley complex lost ground due to the rains, it will be completed late next year.

Being UWA, as a University on the move, we are also currently projecting another significant facility — a magnificent new Business School on the old sheep pens at the south of the campus. Indeed, we have launched a big fund-raising campaign to find substantial sponsorship from the business sector to assist with the projected $30 million budget.

It is my personal regret that I will not be your Vice-Chancellor when these four projects are complete as I will, by then, have returned to scholarship as a research professor. But it is a great thing that UWA constantly ‘builds’ its quality.

These new buildings say much about a major and excellent university that has its face firmly turned to the future.
Roman ruins throughout Europe attract thousands of tourists who love to ramble during the northern summer and enjoy the sun amid the relics of ancient life.

But a cold, wet and muddy Roman fort called Vindolanda, just behind the central part of Hadrian’s Wall in northern England is one of the most famous.

“There are dozens of forts in this part of Britain but what makes Vindolanda so important is that it is very wet,” says classics and ancient history Professor David Kennedy. “Parts of it were waterlogged in Roman times and have remained like that ever since. The result is that many of the organic materials — food, clothing, wood etcetera — which normally decay elsewhere, have been preserved at Vindolanda.”

Among the wooden items recovered in some 30 years of excavation, have been about 2,000 wooden writing tablets, written on in ink.

The most famous of the tablets is a letter written by a woman. Claudia Severa is an aristocrat, the wife of the commanding officer of another fort near Vindolanda. About AD 100, she wrote to another commander’s wife, her friend Sulpicia Lepidina at Vindolanda where the letter was later discarded till found about 20 years ago. It is a birthday invitation and the different handwriting at the end is certainly Claudia Severa herself adding a personal touch to a letter she had dictated.

“It is almost certainly the earliest known example of writing in Latin by a woman. “Most tablets record everyday activities by the garrison: recording of stores (bacon, pepper, tallow, a cloak, barley, honey, Celtic beer, even leather underwear) in the fort, work details, lists of men detached for duty elsewhere, messages between soldiers,” Professor Kennedy said.

The Vindolanda Tablets are the equivalent in Britain of the papyrus paper used around the Mediterranean. Papyrus grows in Egypt, where the climate has helped to preserve many samples. In north western Europe, the Roman sliced thin slivers of wood from trees, just a few millimetres thick, and about the size of a postcard. They then wrote on them in ink.

“Claudia Severa to her Lepidina greetings. On 11 September, sister, for the day of the celebration of my birthday, I give you a warm invitation to make sure that you come to us, to make the day more enjoyable for me by your arrival, if you are present (†). Give my greetings to your Cerialis. My Aelius and my little son send him (†) their greetings. (2nd band) I shall expect you, sister. Farewell, sister, my dearest soul, as I hope to prosper, and bail. (Back, 1st band) To Sulpicia Lepidina, wife of Cerialis, from Severa.”

Continued on page 4
“Here at UWA we have a tremendous opportunity to become world leaders in this new science of astrobiology because of our varied research skills and backgrounds.

“This potential is further improved by the arrival of a new instrument, a Cameca nanoSIMS 50 at the Centre for Microscopy and Microanalysis. This secondary ionising mass spectrometer is capable of analysing areas one micron or less in diameter and, as simple early life forms and the minerals preserving atmospheric information are a similar size, this is ideal.”

Mary said that by analysing sulphur isotope ratios in minerals from ancient rocks it was possible to determine how much oxygen was present in the atmosphere at the time of the rock’s formation. This is because the presence of oxygen (as ozone) reduces the levels of ultra-violet radiation (UV) penetrating the atmosphere, and sulphur isotope ratios are changed by high UV levels. Because the Pilbara rocks are well preserved it is possible, with care, to analyse sulphur isotope ratios that were present in the early atmosphere.

“The oxygen concentration in the early atmosphere is currently at the forefront of global scientific debate,” she said. Currently, the consensus of scientific opinion based on data we already have is that oxygen levels began to rise about 2.7 thousands million years ago, and reached a concentration close to present day levels about two thousand million years ago.

“However, Dr Hiroshi Ohmoto, from Pennsylvania State University, who was part of the expedition in July, argues that oxygen was present early on in the Earth’s history. Therefore we require information from rocks as close as possible to their original state in order to answer this important question.”

Mary said that this research was a great opportunity to focus international attention and collaborative research on the Pilbara. “The Pilbara is undoubtedly an asset of global significance that we are lucky enough to have in our own backyard.”

Continued from page 1

Roman writing revealed

The third volume of Vindolanda Tablets (recently voted the most precious treasure in the British Museum) has just been published. One of the co-editors, Alan Bowman, Camden Professor of Ancient History at Oxford, will be at UWA this month.

Professor Bowman, a colleague of Professor David Kennedy’s, is the Cassamarca Visiting Lecturer for 2003. Professor Kennedy describes him as occupying the most prestigious chair of Roman History in the world.

He will be giving public lectures on early Roman Egypt, early Christianity and a Saturday talk on the Vindolanda Tablets on October 11 in the Octagon Theatre: 9.30 am for coffee with the

Continued from page 1

lecture at 10am. Afterwards, there will be a book signing.

The following Wednesday, October 15, in the Fox lecture theatre at 6.30pm, Professor Bowman will talk about Egypt in the transition from Ptolemaic to Roman rule.

A hundred years of court stories

The day this issue of UWA News is due to be published is the 100th anniversary of the first sitting of the High Court of Australia.

Later this month, the Friends of the University Library invite University staff and their friends to celebrate this event with a reception at University House where the guest of honour will be Justice Michael Kirby, who will speak on the Centenary of the High Court.

Friends of the University Library are delighted to be able to present such a timely address.

The reception will start at 6pm on Thursday October 23, when light refreshments will be served. Tickets are $30 for members and $35 for non-members. Please call Liz Tate on 9380 2356.
Students document Kenyan tribal language

Linguistics students are analysing a little-known language, spoken by a small community in northern Kenya, with the help of finance PhD student Dulacha Barako.

Dulacha grew up in the region, speaking the language of Borana while learning English at school. He says he enjoys helping the third year and Honours students twice a week to understand and analyse his native language.

"It is a relaxing and refreshing break from my studies," said Dulacha, who responded to an advertisement posted by linguistics lecturer John Henderson at the Guild.

"On one level, this unit trains students to analyse and document languages — skills which should be highly valued given the urgency of preserving the many endangered languages of the world.

"But equally importantly, it rounds off an undergraduate education in linguistics by drawing together the things they've learnt in the various specialised units, such as phonetics and syntax.

"It provides an opportunity to understand how a language as a whole constitutes a complex system. And they also get to learn a little of how the language relates to the culture and the environment where it is spoken."

Field Methods is a research unit, centred on groupwork. The class uses half the time working with the speaker, and the other half planning what they need to elicit to get a full picture of the structure of the language, and in analysing the information they get from the speaker.

The goal at the end of the unit is for each student to write an account of the structure of the language, together with a small dictionary. "The unit is very challenging and requires a lot of work but the students find it very rewarding," Dr Henderson said.

"Dulacha is a really good speaker to work with. It might seem that what he's doing is pretty straightforward for a bilingual but it is often actually a very difficult job.

"Few speakers of any language are conscious of the system of the language when they use it — so much of it is automatic for us. Describing things like subtle differences in meaning is incredibly difficult."

Dr Henderson said Linguistics had been lucky to find postgraduate students and staff at the University to allow them to run this course several times in the past few years. The course has often inspired students to go on to further linguistic research, sometimes on the language they started analysing in the course. For example, after a student from the island of Yap (halfway between Darwin and Tokyo) helped students analyse the Yapese language a few years ago, two of the students went on to work with her on Honours projects. Both have since gone on to postgraduate research, one of them still researching Yapese.

Dulacha is a government employee in Kenya, working with the Central Bank, and is doing his PhD in finance at UWA on a scholarship from his employer.

He said the Borana language was spoken by tribes in north Kenya and the border region of Ethiopia, namely Borana, Gabra, Sakuye and Garre.

"There would only be about 300,000 people speaking this language, which is not many, when you consider there are about 28 million people in Kenya, speaking about 42 different tribal languages," Dulacha said.
The plan is to install 79 enormous hollow steel gates (28 metres wide, 18 metres long and nearly five metres thick) at the three entrances to the Venetian lagoon. When tides run high, engineers would activate a system that pumps compressed air into the gates (1), which would then rise on hinges and form a barrier against the surging seas (2). When water is allowed to run into the gates, they would then sink again to the bottom of the lagoon (3), out of the way until the next high tide or storm.
A n ambitious plan to solve the problems of the iconic Venice Lagoon is the focus of a major project at UWA’s School for Water Research.

Consorzio Venezia Nuova (CVN), a consortium of private companies appointed by the Italian Government to solve the problems of Venice and its famous waterways, has chosen the UWA School to conduct three-dimensional hydrodynamic and water quality modelling as part of the huge Venice Gates Project.

The project, launched in May this year, is expected to take eight years and cost close to $A4 billion.

The object is to protect the San Marco islands, on which stand the city’s most precious buildings, from all too frequent and destructive flooding.

Director of the School for Water Research, Professor Jorg Imberger, explains how the Venice Lagoon has gradually deteriorated and threatened the islands that make up the tourist city.

“After the war, groundwater, for industrial use, was pumped from around the perimeter of the Venice Lagoon causing subsidence in the whole area."

“Then the nutrients in the lagoon started to increase as farming in nearby areas picked up after the war and fertilisers started being used and washed into the system. This eventually caused the death of the vast seagrasses that were rooted into the soil at the bottom of the lagoon, keeping the bed stabilised.

“As the seagrasses died and the bottom of the lagoon became unstable, the excess nutrients also caused an enormous growth of sea lettuce that polluted the lagoon.

“Ironically, on top of all that, the sediments that historically used to come into the Lagoon were diverted when the major rivers were diverted around the Lagoon to stop flooding.

“Lastly, with climate change the water level in the Adriatic is rising. So you have a sinking lagoon, a decreased replenishment and a rising water level. The only remedy has, so far been, geomorphic intervention where dredging is used to deepen the channels and build up the islands. However, the loss of sea grasses has made the situation untenable and the authorities are losing the battle, hence the gates.”

Professor Imberger said that for 20 years, Dutch and Danish engineers, who assumed that the water in the Venice Lagoon was homogeneous, ran two-dimensional models to try to understand the waterway’s problems.

“It was during our first small project in Venice, in 1990, that I showed an audience of eminent professors that the lagoon was stratified, with fresh water coming in over the top of sea water and that three-dimensional models would be needed to work out a solution to the problems,” he said.

“It has taken nearly 15 years for them to accept that their findings needed a major adjustment.”

The management of CVN listened to Professor Imberger and eventually awarded him and the team at the School for Water Research a contract to do the three-dimensional modelling against which the work of the commercial companies will be benchmarked. Overseeing the whole project is a team from the Massachusetts Institute of Technology (MIT).

“We have been working up to this contract for nearly 15 years. The Venice Gates modelling project is our third involvement in Venice over nearly 15 years,” Professor Imberger said.

“Our first contract was in collaboration with the University of Padua when we did some initial work on flushing and mixing in the lagoon.

“The second one, 10 years later, funded by the CVN, was an extension of the original work we did, but it led to an understanding of the dynamics of the Venice Lagoon that was totally different to what everybody had been thinking.

“The connection between the Venice Lagoon authorities and the School is very close with active consultation and, most recently, a student from the area, Roman Stocker, completed his PhD with me and is now a Professor at MIT, keeping it all in the family!”

Professor Imberger said his group had done a lot of marketing of their skills and achievements between 10 and 15 years ago and it was now paying off. “The average time between our first conversation with people and securing a contract is about 10 years!” he said.

The Venice Gates project is the biggest environmental venture undertaken by the Italian Government. It is not just tourism that is at stake, but the preservation of an important historical, architectural and monumental area, which includes the Basilica, constructed at the beginning of the 11th century following Byzantine models; the Palazzo Ducale, residence of the Doge and seat of the government and magistracy, built as a fortress and extended and transformed in the 14th and 15th centuries to become one of the most important examples of Gothic art; and the Procuratie Vecchie and Procuratie Nuove, and the Biblioteca Marciana, beautiful examples of Renaissance architecture.

The Italian Government says the safeguarding of Venice and its lagoon is of ‘primary national interest.’

The School for Water Research will use its ELCOM system to develop a hydrodynamic and sediment transport model to determine the effect the closure of the gates is likely have on the flushing patterns of the lagoon (ELCOM, the Estuary and Lake Computer Model, is a three-dimensional hydrodynamics model used for predicting the velocity, temperature and salinity distribution in natural water bodies subjected to external environmental forcing.)

■ Professor Imberger has recently been awarded the annual James N. Kirby Award, one of the highest honours that the Institution of Electrical Engineers bestows in its Australasian region.

The award, which marks the contribution of Sir James Kirby to manufacturing in Australia, is presented to somebody who has achieved outstanding eminence and public recognition in any sphere of activity, not necessarily engineering. Professor Imberger’s James N. Kirby address was on sustainability.

Previous winners of the award include UWA’s Professor lan Constable (2000), Sir Charles Court, Sir Arvi Parbo, Senator John Button, Sir Mark Oliphant and Sir Walter Scott.
Law bursaries keep siblings on their toes

Law student Marcel Neurater achieved more than the recognition of the Law School when he was awarded the Honourable Serge Ferrier Family Law Bursary.

Marcel notched up another parallel with his sister, Patricia. They are both law students, in their penultimate year of study. (Patricia did Honours in Psychology and spent a year on exchange at the University of British Columbia, which means that, although she is two years older than her brother, they are at the same stage of their law studies.)

Winning the bursary in honour of the late Family Court Judge Ferrier puts Marcel in the prize winners' ring with his sister, who was awarded the Ciara Glennon memorial scholarship in 2000.

Marcel and Patricia are hard-working, high-achieving students who are also involved in community work outside their studies. Patricia's fundraising activities for less fortunate people contributed to her winning the Ciara Glennon scholarship. Marcel is an active member of his local Youth Advisory Council and won Mosman Park's Young Citizen of the Year last year. He also does voluntary legal work at the Parkway centre.

Both the siblings are passionate dancers. Patricia is a classical ballet dancer and a champion Spanish dancer. Marcel is also a Spanish dancer. Both of them followed in the flamenco footsteps of their widowed mother Yvonne, and started ballet at the age of five. Marcel dropped ballet for flamenco and Patricia added it to her repertoire.

The Honourable Serge Ferrier Family Law Bursary is open to full-time law students who are enrolled in Introduction to Family Law 376 in the year of application. It is for a student who has demonstrated a particular interest in family law and is deserving of assistance. The $4,000 bursary may be awarded to more than one student, but Judge Ferrier's widow, Evie, decided that Marcel should be the sole recipient this year.

At the presentation at the Law School, Marcel and Mrs Ferrier found that they both lived in Mosman Park, although they had never met.

Dean of the Law School, Bill Ford, reminded the gathering at the presentation that it was the Law School's 75th anniversary. “One of the advantages of this is that we have 75 years of graduates, many of them very generous, such as Serge Ferrier. Evie is delighted to present the bursary in his memory.”
The University’s Workforce Diversity Strategy has expanded to encompass work experience for high school students.

David Camera, from the Mary Ward Centre at John XXIII College, spent one day a week for four weeks with Terry Larder at the Visitors Centre (part of the Office of Development), getting a taste for working with people.

And Mia Vukelic completed a longer-term program, one day a week for two terms, with the Office of Equity and Diversity.

Beverley Hill, Manager Equity and Diversity, said it was part of the University’s social justice obligation, as a major employer, to offer work experience to those who might not be able to find it elsewhere.

“As an institution that places a high priority on intellectual achievement, we have a responsibility to reach out to members of our society who might have difficulty in finding employment,”

“Mia learned a lot of skills and developed an understanding of how a workplace runs, how an office functions and what administrative work actually involves, ideas that can be very vague for high school students of every capability.

“She will now leave school later this year, having had work experience with a reputable employer and we hope it will stand her in good stead for finding work,” Ms Hill said.

David Camera is keen to pursue a career in the media when he leaves school. His work experience was also designed to equip him with basic administrative skills, social contact and a familiarity with workplace culture.

The scheme was initiated by Rhodes Scholar and UWA graduate Ben Gauntlett, who suggested to Diversity Officer Malcolm Fialho that UWA should be proactive in offering work experience to students with special needs.

Fellowship recognises skills

A UWA learning skills adviser is the only Western Australian to be awarded an inaugural HERDSA Fellowship.

Associate Professor Geoff Cooper (pictured), learning and research skills advisor with Student Services, received the professional accreditation at the international conference of the Higher Education Research and Development Society of Australia (HERDSA) in Canterbury, New Zealand. Ten Fellowships are awarded to university teachers across Australia and New Zealand.

The Fellowship scheme is a professional development and recognition scheme to improve the quality of teaching across the higher education sector; to enhance the professionalism of teachers; to provide a way for universities to recognise and reward those who facilitate high quality learning; and to enable HERDSA to recognise and reward good teaching through the process of peer review.

Associate Professor Cooper said the Fellowships must be renewed every three years, to ensure that the Fellows had developed professionally as teachers during that period.

“Fellows also have to provide an undertaking to act as mentors and assessors of applicants for future Fellowships,” he said.

Any HERDSA member who teaches can apply. Current Fellows include staff developers, learning skills advisors and academic staff.

Staff interested in knowing more about the scheme can call him on 9380 3853 or email gcooper@admin.uwa.edu.au
Ngoc Hai Duong's parents get up early every morning and cook rice and noodles to sell on the streets of Ho Chi Minh City.

Nineteen-year-old Duong used to work with them in the morning, then go to school later in the day, where he did very well. World Vision knew of Duong and how bright he was and when an Australian-based company, Learning Information Systems (Studylink), asked the organisation to recommend somebody for a scholarship in Australia, Duong’s name was put forward.

He is now spending three months learning English at UWA’s Centre for English Language Teaching (CELT), thanks to Studylink’s inaugural scholarship.

Roger Bendall, business developer for LIS Studylink, said his company had spent 10 years matching students to courses and learning institutions all over the world. “It’s been a very good business, and now, we would like to give something back to the people who have supported us,” Mr Bendall said.

“We wanted to give somebody like Duong an opportunity to change their lives,” he said.

“We knew that World Vision could identify teenagers in need of help and direction, so we asked them to nominate young people who would benefit from some specific education,” he said.

IDP, a company owned by a consortium of Australian universities, which processes about 25 per cent of the overseas students who study in Australia, interviewed the potential students recommended by World Vision. The participating educational institutions also had to agree to take a scholarship student. CELT was delighted to be able to offer Duong the first scholarship in the scheme.

“Duong is our pioneer, our first scholarship winner,” Mr Bendall said. “We hope to sponsor two or three students a year from now on. We already have three more students from developing countries lined up to go to Queensland to study agriculture.”

Mr Bendall said Duong, who had started work in the office of a non-government organisation, would be able to increase his computer skills if his English improved.

So he is now staying at Trinity and doing an intensive English language course.

“Bianca Panizza, the Director of CELT, has helped us to get Duong here. We couldn’t have done it without her,” Mr Bendall said.

Bianca explained that CELT had very few Vietnamese students. “So we jumped at this opportunity. Duong is doing very well at his studies and goes fishing and surfing with a friend he has made here. He’s a delightful young man and a great ambassador for his country.”

Duong said (partly through an interpreter) that he hoped his improved English would help him to get work in information technology.

Learning a life-changing experience

Ngoc Hai Duong (centre) with Bianca Panizza, Roger Bendall (rear) and CELT student Van Liem Nguyen, who interpreted for Duong
A bseiling and rollerblading are an important part of a program designed to give high school students a taste of University life.

Campus Challenge is run every year in January, a joint venture between Prospective Students, UWA Sports and St Catherine’s College.

“It’s important for the students to sample the whole experience of University,” said Ian Fitzpatrick, UWA Sport and Recreation Manager.

“The fun activities are as integral as the academic experience.”

Students going into Year 11 and Year 12 are invited to take advantage of the program in January next year. About 160 students live in at St Catherine’s from January 11 to 16, and take part in a wide range of hands-on activities from a study areas including psychology, forensic science, engineering, human movement, architecture and fine arts, agriculture, physics and medicine and dentistry.

The recreation program is just as full and just as varied. It includes yoga, body combat, abseiling and rock climbing, rollerblading and movies at the Sunset Cinema in Kings Park.

A limited number of scholarships are available for regional students. For information about the Challenge, call 9380 2286. For scholarship information, 9380 7311.

Global climate change answers are here

Measuring the movement of carbon dioxide over a wheat field in 1972 set young biologist Graeme Pearman on a career path of atmospheric research.

Dr Pearman, who earned his PhD at UWA, will review the discoveries he has made, in the 2003 Brodie-Hall Address on Monday October 20.

From wheat field to the world, and back: Thirty years of Australian climate change science is the CSIRO’s 19th annual free public lecture in honour of Sir Laurence Brodie-Hall.

Dr Pearman is director of CSIRO Climate and CSIRO Atmospheric Research. As a young graduate he was filled with curiosity and scepticism about global atmosphere and the belief that carbon dioxide concentrations were increasingly affecting climate.

He embarked on a long-term program of carbon dioxide concentration measurement, built global carbon cycle models, used characteristics of carbon isotopes, collected carbon from tree rings and gases from ice cores, and finally found answers to his questions.

Dr Pearman will share them with the audience at the City West Function Centre on October 20 at 8pm. Entry is free but please check with Australian Resources Research Centre on 6436 8500 or reception@arrc.csiro.au for availability of places.
Parting words

As I leave St Catherine’s College after 10 years as Head, my last words would have to be extremely rewarding.

With my experience lecturing in Physical and Health Education and Women’s Studies at Edith Cowan University, my involvement with the Women’s Sport Foundation and my interest in women’s issues I felt that I had adequate preparation to lead a women’s college. As a graduate of The University of Western Australia, I had an affinity with the university and knew some of the staff through my own studies and other networks.

I have been extremely fortunate in having a Council that has been very supportive and allowed me the freedom to develop the College in ways that I thought were appropriate.

Unlike the other residential colleges at UWA, St Catherine’s College is single-sex. It is a non-denominational, residential college for women, accommodating 150 residents from across Australia and more than 25 countries.

The College has a tradition of academic excellence and the young women are encouraged to reach their full potential as scholars. It provides an excellent academic support program and is recognised as a dynamic community with a legacy of women leaders and a commitment to global issues.

Our aim has always been to graduate independent, critical thinkers who speak and write powerfully, who are technologically competent and who are distinguished by their ability to lead in a complex pluralistic world. We have a remarkably diverse community with approximately fifty percent of residents from Australia and the remainder from overseas. This diversity reflects that of the university and indeed the wider community. The College provides an environment that encourages residents to deal with the complex intellectual and social challenges and benefits of living in a diverse community. We are proud of this diversity and I really believe that the unique situation of living in a college provides a real opportunity for mutual exchange and understanding between students from so many different backgrounds.

One of the joys of being at St Catherine’s has been witnessing the extraordinary capacity of a single sex college to provide a nurturing and supportive environment, in which young women can grow to become future leaders. The leadership experience in College provides training and encouragement for leadership positions in the professional and community roles undertaken by our graduates. There are no stereotypes about what women should do, but there are unlimited expectations about what they can do. St Catherine’s College is a great training ground for careers that might not be considered traditional for women.

Our graduates are competent, confident young women who have developed interests, values and beliefs that will empower them in the years ahead. Their participation in the wider community is encouraged and indeed many former residents have gone on to exemplary lives of service and leadership. Examples include The Hon Dr Carmen Lawrence, Sue Boyd, Rev Angela Webb and Clinical Professor Lesley Cala.

Leaving St Catherine’s College will be difficult. As a family we have loved being involved in a myriad of activities that have enabled us to learn more about our global community. We have been to weddings in Malaysia and Bali, had many happy occasions in Singapore, the USA and other places where former residents have been our hosts.

I have valued greatly the support provided by my fellow Heads of Colleges, past and present. Although we have separate communities, we share common goals and interests. Our residents benefit from the support provided along College Row and enjoy the interaction amongst the Colleges.

Most importantly, the residents and staff of the College have been very special and have supported me throughout my time as Head of College. I am indebted to them for the guidance and assistance that they have provided. Many of these residents will reach great heights in their careers and I look forward to hearing of their successes.
Research Grants & Contracts

AGRICULTURE WESTERN AUSTRALIA/ AUSTRALIAN RESEARCH COUNCIL LINKAGE
Prof Kenneth Clements and Dr Moonjoong Tcha, Economics and Commerce: ‘Economic aspects of wool in Western Australia’—$240,000 (2005).

AGRICULTURE WESTERN AUSTRALIA/ AUSTRALIAN RESEARCH COUNCIL LINKAGE/ CHEMISTRY CENTRE WA
Prof Zdenko Rengel and Dr D. Allen, Role of nitrogen and sulphur nutrition in determining quantity and quality of oil in canola seed”—$380,000 (2003-06).

ALCOHOL EDUCATION REHABILITATION FOUNDATION

AUSTRALIAN INSTITUTE OF ABORIGINAL AND TORRES STRAIT ISLANDER STUDIES

AUSTRALIAN RESEARCH COUNCIL LINKAGE/TECHNOLOGICAL RESOURCES PTY LTD
Dr Ronald Lyndon While, Mr Luigi Barone and Dr P. F. Hingston, Computer Science and Software Engineering:—Evolutionary design for ore processing plants”—$270,000 (2003-05).

AUSTRALIAN RESEARCH COUNCIL LINKAGE/PROTEOMICS INTERNATIONAL
Dr Peter Arthur and Dr Richard Lipscombe, Biomedical and Chemical Sciences: ‘A proteomic approach to identifying the signaling pathway(s) by which acute oxidative stress causes cell death by apoptosis’—$5000 (2003-05).

CRAWFORD FUND FOR INTERNATIONAL AGRICULTURE RESEARCH

DRAINFLOW SERVICES PTY LTD
Dr Timothy Mazzarol, GSM:—‘Commercialisation of the otter’”—$5294 (2003).

Emergency Medicine Research Symposium
Friday 17th October 2003
FJ Clarke Lecture Theatre, P Block, QEII Medical Centre
Sponsored by Roche Products

13.00-13.10 Welcoming Address
Professor Lou Landau Dean, Faculty of Medicine and Dentistry, UWA

13.10-13.45 Keynote Address
Preventing anaphylaxis to venom of the jack jumper ant (Myrmecia pilosula)
Dr Simon Brown Emergency Physician, Royal Hobart Hospital, Clinical Senior Lecturer, University of Tasmania

SESSION I — CHAIRPERSON: DR LINDSAY MURRAY
13.45-14.00 Prehospital airway management in Perth
John Brereton Master’s candidate

14.00-14.15 Functional analysis of the venom of three Australian jellyfish
Dr Paul Bailey Emergency Physician, Joondalup Health Campus, PhD candidate

14.15-14.30 Establishing ECHO
Dr Peter Spirvulis Emergency Physician, Fremantle Hospital, PhD candidate

14.30-14.45 Epidemiology of asthma in the pre-hospital setting
Nick Gibson PhD candidate

14.45-15.00 Drink-spiking Investigation Project
Dr Paul Quigley Senior Emergency Registrar, SCGH

15.00-15.30 Afternoon Tea

SESSION II — CHAIRPERSON: DR TONY CELENZA
15.30-15.45 Magic bullets of new health systems: Information, communication, and behavioural change
Dr Tom Hitchcock Emergency Physician, Royal Perth Hospital, Clinical Senior Lecturer, UWA

15.45-16.00 Prehospital use of intranasal fentanyl
David Ford Master’s candidate

16.00-16.15 Comparison of routes of injection for the treatment of envenomation by red back spider bite (CRITTER) trial
Dr Rod Ellis Emergency Physician, Fremantle Hospital

16.15-16.30 Low acuity patients do not cause of contribute to ambulance diversion in metropolitan Perth
Dr Yusuf Nagree Emergency Physician, Fremantle Hospital Director, Emergency Services, Armadale Health Services, Clinical Senior Lecturer, UWA

16.30-16.45 Pre-hospital care and jellyfish envenomning
Dr Mark Little Emergency Physician and Clinical Toxicologist, SCGH

16.45-17.00 A pilot trial of thrombolysis in cardiac arrest (the TICA trial)
Dr Daniel Fatovich Emergency Physician, Fremantle Hospital Director, Emergency Services, Armadale Health Services, Clinical Senior Lecturer, UWA

17.00 Closing Address
Associate Professor Ian Jacobs Emergency Medicine, UWA

17.00 Wine and nibbles
Sponsored by Roche Products

PhD CONFERENCE IN ECONOMICS AND BUSINESS
5–7 November 2003
All staff, students and any other interested people are welcome to attend.

For further information, interested staff, students and visitors should visit the web site http://www.econs.ecei.uwa.edu.au/erc/erc/PhD%20Conference%20Web/index.htm and click on 2003 Programme.

Enquiries should be directed to Ms Helen Friday, Economic Research Centre, tel: 9380 2928 or email hfriday@ecei.uwa.edu.au.
Monday 6 October

PSYCHOLOGY COLLOQUIUM TALK
‘A cognitive-neuropsychiatric theory of delusional belief’, Max Coltheart, Macquarie Centre for Cognitive Science, Macquarie University. 11am, Room 2.33, North Block of Psychology Building.

Tuesday 7 October

MARINE SCIENCE AND ENGINEERING SEMINAR
‘Plankton community structure and productivity regimes across the continental shelf and slope of southwestern Western Australia’, Tony Koslow, CSIRO Marine Research. 4pm, Room 119, School of Water Research Building.

Wednesday 8 October

GEOGRAPHY SEMINAR
‘The challenges of regional tourism: a case study of New Norcia’, Fiona McKenzie, IRD. 1pm, Geography Lecture Theatre 1.

EUROPE AND ITS RACISM PUBLIC LECTURE
‘Race and the fate of the Slavs’, Roger Markwick, University of Newcastle. 6pm, Geography Lecture Theatre 1.

Thursday 9 October

‘Spectroscopic detection of the species H2O, HO and O2.H2O and their astrophysical importance’, Paul Cooper. 5.15pm, Simmonds Lecture Theatre.

CTEC SEMINAR
‘The impaired medical practitioner’, Professor Con Michael, President of the Medical Board of Western Australia. 12.30pm, CTEC.

FREE LUNCHTIME CONCERT
Baroque Bon-Bons. Join Suzanne Wijsman, Noeleen Wright and Stewart Smith as they perform a selection of little-heard Baroque cello sonatas from the eighteenth century including works by Barriere and Geminiani. 1.10pm, Winthrop Hall.

Friday 10 October

LAWRENCE WILSON ART GALLERY TALK
‘A talk given by Dr Tanya Dalziell, from English Communication and Cultural Studies, related to the exhibition flux. 1pm, LWAG.

ASIAN STUDIES SEMINAR
‘Reciprocity and communal justice in a contemporary Indonesian village’, Nicholas Herriman. 1pm, G.25 Seminar Room, Ground Floor, Social Sciences Building.

MICROBIOLOGY SCHOOL SEMINAR
‘Microbiology sunlight (or radiation), nerves, mast cells and skin cancer’, Associate Professor Prue Hart, ICHR. 1pm, F. J. Clarke Lecture Theatre.

Monday 13 October

SCHOOL OF INDIGENOUS STUDIES AND INSTITUTE OF ADVANCED STUDIES

Tuesday 14 October

PSYCHOLOGY COLLOQUIUM TALK
‘Visual memory improved by learning a sign language and Chinese characters’, Mary Flaherty, Psychology, University College Dublin. 11am, Room 2.33, North Block of Psychology Building.

ANATOMY AND HUMAN BIOLOGY SEMINAR
‘Occludin—the primates specific gene’, Dr Reza Ghassemifar. 1pm, ANHB Building.

EARTH AND GEOGRAPHICAL SCIENCES SEMINAR
‘Alcoa’s bauxite mining rehabilitation: recreating a jarrah forest ecosystem’, Dr Carl Grant, Alcoa. 4pm, Agriculture Lecture Theatre.

Wednesday 15 October

CLASSICS AND ANCIENT HISTORY LECTURE
‘Egypt in transition from Ptolemaic to Roman rule’, Professor Alan Bowman, Brasenose College, Oxford and Cassamarca Visiting Lecturer. 6.30pm, Fox Lecture Theatre.

GEOGRAPHY SEMINAR
‘Storm events and coastal management in the Perth region’, Dr Ian Elliot. 1pm, Geography Lecture Theatre 1.

EUROPE AND ITS RACISM PUBLIC LECTURE
‘Race and the fate of the blacks’, Shane White, University of Sydney. 6pm, Geography Lecture Theatre 1.

Thursday 16 October

FREE LUNCHTIME CONCERT
The ever popular Defying Gravity Percussion Ensemble return for yet another energetic recital featuring Peter Hadley’s minimalist Percussion Quartet and ‘Bonking Music’ by Robert Cosson. 1.10pm, Octagon Theatre.

Friday 17 October

ASIAN STUDIES SEMINAR
‘(Dis)locating “Chineseness”: reconceptualising ethnic Chinese identity in post-Soeharto Indonesia’, Chang Yau Hoon. 1pm, G.25 Seminar Room, Ground Floor, Social Sciences Building.

PUBLIC SEMINAR
‘Improving opportunities for all: reasonable accommodation of student and staff disabilities’, Graeme Innes, Deputy Disability Discrimination Commissioner, Human Rights and Equal Opportunity Commission. 1 to 2pm, Social Sciences Lecture Theatre.

CLIMA SEMINAR
‘Evolution in sown mixtures of subterranean clover’, Mr Phil Nichols, DAWA; ‘drought physiology in chickpea’, Dr Jens Berger, UWA. 4pm, CLIMA Seminar Room.

MICROBIOLOGY SEMINAR
‘Bacteriophages of Clostridium difficile’, Shan Goh, Microbiology. 1pm, Microbiology Seminar Room, First Floor, L Block, QEII MC.

IMM SEMINAR
‘When business partners want to fight: a case study of sources to business divorce’, Associate Professor Terje I. Valand, BI Norwegian School of Management. 11am, Social Sciences 2233, South Entrance. Contact Min Qiu, ext. 3729, mqiu@ecel.uwa.edu.au.

ADVANCE NOTICE

Monday 20 October

MEDICAL RESEARCH SEMINAR/ASTHMA AND ALLERGY RESEARCH INSTITUTE
‘Childhood leukaemia’, Dr Wayne Greene, Dept of Veterinary Biology and Biomedical Science, Murdoch University. 12.30pm, Jaske Seminar Room, Medicine, Fourth Floor, G Block, SCGH.
Tuesday 21 October

PSYCHOLOGY COLLOQUIUM TALK

Wednesday 22 October

PERTH MEDIEVAL AND RENAISSANCE GROUP TALK

EUROPE AND ITS RACISM PUBLIC LECTURE
‘Racism, ethnicity and evolutionary theory’, Thomas Eriksen, University of Oslo. 6pm, Geography Lecture Theatre 1.

Thursday 23 October

FRIENDS OF THE UWA LIBRARY—A RECEPTION
A reception, with Guest of Honour The Hon. Justice Michael Kirby, who will speak on the ‘Centenary of the High Court of Australia’ (first sitting held 6 October 1903). 6pm, University House. Light refreshments on arrival. RSVP essential (by Monday 13 October). Members: $30; visitors: $35. For further enquiries, contact Liz Tait/Pia Savage on ext. 2356.

What’s On
Places are still available in following workshops:

GETTING STARTED
• How the University Works: Human Resource Issues 5 Nov, 9-12pm (Closing date: 15 Oct)
• Treasures in the Flea Market 7 Nov, 10.30-12.30pm (Closing date: 17 Oct)

GETTING THE BALANCE RIGHT
• Planning for Retirement 6 Nov, 8.30-4pm (Closing date: 16 Oct)

DEVELOPING EFFECTIVE COMMUNICATION STRATEGIES
• Giving and Receiving Constructive Feedback 12 Nov, 8.30-12.30pm (Closing date: 22 Oct)

IT COURSES
• Learning How to Learn IT Online 4 Nov, 10-12pm (Closing date: 14 Oct)
• A Novice’s Approach to Using Excel 11 Nov, 10-12noon (Closing date: 21 Oct)
• Databases for the Innocent 28 Oct, 10-12noon (Closing date: 7 Oct)

EARLY CAREER RESEARCHER SUPPORT
• Writing and Publishing in Scientific Journals 28 Oct, 9-4.30pm (Closing date: 7 Oct)

SUPERVISING POSTGRADUATES
• Supervising Postgraduate Students 30 Oct, 9-4.30pm (Closing date: 9 Oct)

For further information and registration for these or other workshops, see http://www.csd.uwa.edu.au/programme/ or contact OSDS or on ext. 1504 or by email csdoffice@csd.uwa.edu.au.

OSDS are also conducting Ally training
• Friday 28 November, 9-2pm (Closing date: 7 November)

To register for Ally training please email the CSD Office at csdoffice@csd.uwa.edu.au or on ext. 1504.

Did you know that UniPrint can produce envelopes in a range of sizes with details of your specific school or unit on them?

For more information contact Ray Horn on 9380 8790
FOR SALE
SUZUKI SIERRA 1988, black, soft top, low km, good cond., ideal summer vehicle. $4800. Ph: Krish at 9380 7314 or email krish@cyllene.uwa.edu.au.

DINING SUITE, 5 pce, oval table (removable centerpiece makes it round table), US-made, very good condition, $140. Ph: Krish at 9380 7314 or email krish@cyllene.uwa.edu.au.

FRIDGE/FREEZER Westinghouse 500L, 2 years old, frost free. $900. Please call 0414 346 952.

FORD FALCON AU FORTE, 1999, auto, white, power steering, air con., ABS brakes, 6 months licence, electric windows/mirrors, keyless c/lock, ABS brakes, driver’s air bag, 3 years/175,000 warranty, excellent condition. $14,000. Please call 0414 346 952.

UTE Holden Rodeo December 97 4WD turbo diesel 115.000km steel tray, long range tank, good condition, $15,500.00. Please call 0409 089 249.

WANTED TO RENT
NEED A HOUSE/TOWNHOUSE to rent for one year in Nedlands/Clairemont/Shenton Park area. Prefer three bedrooms, two bathroom family home. Has to be in good condition and quiet place. Contact: 9386 6139 or yogesan@cyllene.uwa.edu.au.

HOUSE/APARTMENT NEAR UWA to rent for house-proud couple and well-policed toddler from early Jan to late Feb/early March (some flexibility over dates) Email: T.Tregenza @leeds.ac.uk.

FOR RENT
DAGLISH, fully furnished and equipped 3 brm, 2.5 bath home with pleasant outlook to park. Ducted air-con. and heating. Near Daglish 2.5 bath home with pleasant outlook to park. Ducted air-con. and heating. Near Daglish

3-BEDROOM FULLY-FURNISHED HOUSE, 5 minutes walk to UWA, available January and February 2004. Phone Lyndon on 0403 326 854.

HOUSE TO RENT IN ALEXANDER HEIGHTS 3 x 1 air-con., retic garden, security grill, security windows, gas stove and hot water system. Close to Mirrabooka Shopping Centre and quiet area. Rent unfinished $180 OR rent finished $230. Ph: 9380 3670.

AVAILABLE OCTOBER, 2003, CRAWLEY, furnished accommodation, ideal for visiting academics. Short and long term. Two bedroom self-contained apartment in Fairway, next to UWA. Fully furnished and fitted out (including linen). Air-conditioning, heating, TV, telephone, undercover parking. Short walk to shopping centre, transport, restaurants, tavern, cinema, Swan River and Kings Park (bushland and recreational facilities). Email: crawley-apartment@iinet.net.au. Web address: www.goodstay.com/perthapartment. Mobile: +61 0418 914 204. $375 per week; lower rates for long duration (6 months or more); telephone charges extra.

FOR SALE
VINEYARD: WANDERING-BROOKTON AREA, just 90 minutes from Perth to this pretty property with 5000 shiraz vines, 70 acres pasture, 4brm home, sheds, dams. PRIVATE SALE $265,000. Don’t pay Margaret River prices; don’t travel for hours! Call Michael on 0409 089 249 and visit the property soon. For pictures of the property, email modsol@iinet.net.au.

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Redundant Equipment for Sale

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<th>ITEM</th>
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<td>Apple Laserwriter Pro</td>
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<td>Pentium 100 MHz, 64 Mb RAM</td>
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Research Grants and Contracts continued from front page

IAN POTTER FOUNDATION
Prof Dennis Haskell and Dr Megan Mckinlay, Social and Cultural Studies:—“The Tenth Biennial Symposium on Culture and Society in the Asia-Pacific Region”— $2000 (2003).

LAERDAL PTY LTD
A/Prof Ian Jacobs, Primary, Aboriginal and Rural Health Care: ‘Laerdal Pty Ltd—cardiac arrest project’— $25,000 (2003).

WATER AUTHORITY OF WA

WESTERN MINING CORPORATION

Classifieds

Suzanne or email harrowfield@chimie.u-strasbg.fr

Schools are reminded that all University equipment available for sale must be advertised in the UWAnews. Receipts should be PeopleSoft account coded 490 (computing with barcode), 491 (non-computing with barcode) or 493 (items with no barcode). If equipment has an existing bar code please contact extension 3618/2546 for details.

CONDITION refers to the general condition of item ( 1 = as new; 2 = good; 3 = serviceable; 4 = unserviceable). AGE refers to the nearest year.

Bids should be accepted by Monday 20 October with schools to have first option

To place your advertisement email joanna.thompson@uwa.edu.au.

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