



## Graduations cap family achievements

By Lindy Brophy

The Lienert family treads two well-travelled paths – education and law enforcement.

Mother and daughter Shirley and Suzanne have both recently completed their PhDs in Education, while father Graeme and son Richard both serve in the WA Police Force.

When Suzanne Lienert completed her Doctorate in Education, she couldn't wait around for the graduation ceremony. She took her degree out through Senate last year, and set off for the UK.

Within a few months of Suzanne completing her doctorate, her mother Shirley completed hers. Mrs Lienert was the only Doctor of Education graduating at last month's ceremonies.

If only the family had known that Suzanne's brother, Richard, would decide to be married within days of his mother's graduation ceremony, and that Suzanne would come home from England for the wedding, mother and daughter could have mounted the stage in Winthrop Hall together. But she sat with the rest of the family in the audience and cheered her mother's achievement.

While mother and daughter have followed the same path in the Lienert family, so have father and son. Graeme and son Richard are both members of the WA Police Force. Graeme is an Assistant Commissioner and Richard is a constable.

Dr Shirley Lienert is senior teacher at Anzac Terrace Primary School, Bassendean, and Dr Suzanne Lienert is Head of the Mathematics Department at Heathcote Secondary School in Hertfordshire, UK.

The Newnham family was also out in full strength, at the graduation ceremony for the Faculty of Life and Physical Sciences.

Mother and daughter Susie and Elizabeth Newnham received their Bachelors of Psychology with Honours, while their husband and father, Professor John Newnham, Head of the School of Women's and Infants' Health, watched, with the rest of their family.



*Caps off to the Lienert family: Richard, Suzanne, Graeme and Shirley (Picture: Community Newspapers)*

Susie, a former midwife, started studying Psychology part-time eight years ago. When her older daughter, Elizabeth, left school four years ago, she decided to follow in her mother's footsteps. She caught up with Susie in their final year and they shared some tutorials as part of their Honours course work.

Susie's Honours research was into attentional bias for anxiety in pregnant women, which brought together her recent years of study, her former work as a midwife and even touches on her husband's specialist medical area.

Elizabeth's thesis looked at treatment types for social anxiety disorder. She has now embarked on a Masters/PhD in the School of Psychology and intends to work as a clinical psychologist.

Susie is doing her Masters at Curtin University of Technology and plans to work in counselling psychology.



*Co-graduates Elizabeth and Susie Newnham are the best of friends*

# Medal for a true believer

Listing Annette Knight's civic and community involvement would fill a book.

But it would put into perspective how strongly she has always supported, believed in and worked for a university centre in her home town of Albany. She counts it as her greatest passion, which is really saying something for a woman who has devoted her life to the community.

For years the mother of seven worked tirelessly through the Town of Albany Economic Development Unit, promoting Albany as a suitable regional centre in which to establish a university.

When the UWA Albany Centre was established in 1999, Annette was one of its key advocates and supporters. She was an inaugural member of the UWA Albany Foundation, which brought together business leaders to assist in the establishment of the Centre. She was also a member, and later, Chair, of the Friends of UWA in Albany.

Annette lobbied politicians for funding and support, and business leaders for scholarships. She and her husband Tom renovated the first student common room at the original Centre, talking Bunnings into donating materials.

Annette's passion, her belief in both Albany and UWA, and her constant work were recognised last month with a Chancellor's Medal, presented at a UWA graduation ceremony.



Annette Knight receives her Chancellor's Medal from Dr Ken Michael

A civic leader (twice elected Mayor of Albany), community advocate and activist, charity worker and radio announcer, mother and grandmother, Annette somehow found time to do mature-age tertiary studies by correspondence.

But none of her seven children has a university degree. "They've all done extremely well, but they have followed paths that didn't take them through uni," she said. "Most people assume that they are the reason I lobbied so hard for so long to get a university centre in Albany. But it wasn't for my children – it was for other people's children and the entire community."

Annette can now add the Chancellor's Medal to a list of honours and awards for her community and civic work that includes Member of the Order of Australia, Sir David Brand Medal (WA Tourism Awards), Regional Development Award in WA Citizen of the Year, and WA Telstra Business Woman (Public Sector).

## Faculty passes ball to art historian

Clarissa Ball has already achieved a few firsts after only a couple of months as the new Dean of Architecture, Landscape and Visual Arts.

She is the first non-architect to hold the position of Dean, and the first woman to lead the Faculty. Dr Ball was the first female Associate Dean and, now that architect Kate Hislop is Associate Dean, they are the first all-female executive.

Dr Ball explained that, in the early 1990s when Fine Arts and Architecture amalgamated, and moved from Crawley to the Nedlands campus, a requirement of the amalgamation was that the Head of School must always be an architect.



The School became its own Faculty after the restructure in 2002. Dr Ball became Associate Dean but didn't think she would naturally progress to the position of Dean as she was an art historian.

But her enthusiasm for her work, the Faculty and the staff has obviously paid off.

"It's a fabulous faculty: the staff are great, hardworking, committed to the success of the faculty and extremely good at their jobs," she said.

She said that, with the staff having 12 children between them under the age of five, all of them, male and female, were very conscious of the University's family friendly policies.

"Kate and I both have children and I think it will be this, and the need to be extremely well organised when you combine them with a full-time demanding job, that will colour our leadership of the Faculty."

She said the biggest issue facing her – and all Deans – was the Federal Government taking control in the Senate. "There is a general feeling of trepidation, a sense of nervousness about the future," she said. "My role is to lead the Faculty as best I can through these times, when we will all be held much more accountable," she said.

Dr Ball loves her work and spends long hours on campus, even utilising her time while driving between Nedlands and her family home in the hills, by doing her emailing at the red traffic lights along the way.

# Sleepless in submarine lab

One of the attractions at UWA EXPO last year was a small submarine that drove itself around a swimming pool outside the Electronic Engineering building.

Children enjoyed watching the submarine change directions without any guidance from remote controls.

But the project is much more than child's play. It is an ongoing project for final year, honours and graduate students in the School of Electrical, Electronic and Computer Engineering.

Recently some of the group who worked last year on the project (which the students call Mako, after the killer shark) handed over to incoming students. The new members heard tales of students sleeping overnight in their labs, of working from 9am until 1am the next day, of the six months it took to build the Autonomous Underwater Vehicle – and it did nothing to dampen their enthusiasm.

Under the guidance of Associate Professor Thomas Bräunl, Director of the Centre for Intelligent Information Processing Systems (CIIPS), the students are aiming towards an intervarsity competition later this year, involving both Australian and Asian universities, where they hope to prove that Mako is the best at autonomous underwater tasks.

A/Professor Bräunl explained that such systems represented an emerging industry and could be used in the future in the areas of oil and gas mining, pipeline and oil rig inspection, testing of ocean conditions, surveillance and mineral exploration.

"It is taking a step further from remotely operated vehicles. This submarine has its own autonomous intelligence system," he said.

Mako took six months to build, then since being demonstrated at EXPO, the students have been refining its programming and software design. The project has cost about \$5,000 so far, with labours of love from the students and workshop staff.

The project is sponsored by Raytheon, Aqua Com, DSPComm and UWA.

"We had to be creative," explained Minh Nguyen, who completed his Honours project on Mako last year. "Because we had limited funding, we had to do things like adapt standard parts from boats such as echo sounders."



Associate Professor Thomas Bräunl (second from right) with his students and their Autonomous Underwater Vehicle on the day of the project handover: Evan Broadway, Adrian Boeing, Elliot Alfirevich, Louis Gonzalez, Chris Thorp and Minh Nguyen



Thomas Bräunl and Minh Nguyen demonstrated Mako at UWA EXPO

The tricky part, they all agreed, was integrating the electronics and fitting it all snugly inside the compact vehicle. When the vehicle is ready for different underwater tasks, it will be fitted with the appropriate tools.

PhD student Adrian Boeing, who is working on the submarine's simulation system, said it could be set up for different tasks before being shown to prospective users.

"For example, we could set it up for pipeline inspection, then get in touch with companies who do that sort of work and show it to them. Then we could set it up for a completely different task for a different consumer."

A/Professor Bräunl said that, currently, the submarine team was focussing on the competition, rather than commercialising their work. "We are now developing techniques that can be used in open water," he said.

If you would like to know more about the Autonomous Underwater Vehicle, you can contact A/Professor Bräunl at [tb@ee.uwa.edu.au](mailto:tb@ee.uwa.edu.au) or see the web site: <http://robotics.ee.uwa.edu.au/auv>.

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## Vice-Chancellor's column



# The case for compulsory student amenities fees

Federal Education Minister Brendan Nelson's latest move to 'reform' the higher education sector by seeking to remove compulsory aspects of student activities on University campuses is ill-conceived.

Throughout its history The University of Western Australia has built a reputation as a learning institution of the highest quality and standing and is acknowledged for the unique student experience it provides.

UWA's founders recognised the value of such an experience. They saw it as essential to promoting a love of life long learning. That is why, along with the role of graduates, the role of the student body was incorporated in legislation to establish the University. It was a deliberate act to reflect the belief that a University and university life should encompass the human experience of shared activities – academic, cultural, social and sporting.

The most recent legislation introduced into Federal Parliament sets out to establish a system of voluntary student unionism in Australia, something that is already an option at UWA. However the new legislation also includes a prohibition on universities charging a compulsory student amenities fee, and a provision for punitive damages if a University does so.

The amenity fee levied by the University, funds the provision of a wide range of important services to students, with 70 percent of the fee being allocated to the UWA Student Guild and 30 percent to the UWA Sports and Recreation Association. The funding supports educational assistance and study skills support, childcare, financial assistance and advice, counselling services, student representation and advocacy, on-campus catering, and a range of sporting and cultural clubs that are recognised as such an important part of campus life. It expressly does not (and cannot by Statue) go towards the support of political causes. The Guild has to provide an annual, audited account of expenditure to the Senate and an explicit assurance that funds have been applied to approved purposes.

The Minister has questioned why all students should pay for these services if not all use them equally. This is in fact no different to the taxation system, or the system of local government rates, where members of the community pay collectively for essential services whether they access the service or not. Providing such service is an accepted part of running a society for the greater good. In UWA's case, the levy in 2005 is \$120 per year, for a full-time on campus student (concessions apply for others), which represents a modest cost, by national standards, for the benefits offered.

The removal of these benefits will hit students hard, particularly those from economically disadvantaged backgrounds, and those from rural and remote areas, who do not have ready support systems within the metropolitan area. The clubs and societies can, and do, provide a life-line to students who do not have strong social networks when they first enter campus. At the same time they provide the quality of social interaction and an environment and opportunities for leadership development for which our campus life is renowned.

A strategic objective of the University Senate is to enhance the student experience on campus, with the express purpose of ensuring that students have a broad and high quality experience while they are with us, and that they have services provided to them to enable them to cope with the academic, financial, and social pressures of being a student.

I believe that if students leave UWA armed only with a degree, but without having been fully involved in campus life, we have failed in our duty. We must foster a complete student experience.

**Alan Robson**  
*Vice-Chancellor*

# Drugs on the way out

## Animal biologists look for natural alternatives

Antibiotics have become as much a part of the diet of animals bred for human consumption, as pasture and pellets.

But all that is changing. In Europe, the agricultural industry is about to ban the use of antibiotics in animal feed and Australia is sure to follow suit.

Agricultural scientists, Dr Phil Vercoe and one of his PhD students, Peter Hutton, from the School of Animal Biology, are exploring the potential of native plants as natural alternatives to antibiotics.

The antibiotics in animal feed are not only used to kill harmful bacteria but also to promote growth. Dr Vercoe said the ban in Europe had been forced by increasing consumer concern about the development of antibiotic resistance.

“People are worried that they would be susceptible to super-bugs and that they wouldn’t be able to fight them with antibiotics, as those bugs would have developed resistance to the antibiotics while they lived inside the animals,” he said.

The European search for alternatives is based at the Rowett Research Institute in Aberdeen, Scotland. Dr Vercoe and Peter Hutton are collaborating with Dr John Wallace at the Institute, where seven million Euros have been poured into the search, and 500 plants are being screened. Dr Wallace visited the Faculty of Natural and Agricultural Science at UWA last year and established the collaboration with Animal Biology.

Peter is utilising the resources of the CRC for Plant-based Management of Dryland Salinity (which is helping to fund the research), CALM, the Department of Agriculture, and UWA Professor of Microbiology, Tom Riley, who has already done extensive research into tea trees and tea tree oil.



“Australian native plants, such as melaleucas, are rich in compounds with antimicrobial properties,” Peter said. “We aim to find the best compounds to replace antibiotics used to manipulate bacteria in the stomach of cattle and sheep to reduce pollution (methane and ammonia) and to improve productivity and quality.”

But, he said, with most native plants developing in an arid environment, the compounds were probably the plant’s defence against grazing animals.

“What we need to find are plants that provide positive influences against stomach bugs in grazing animals, but are not unpleasant to eat. Domesticated animals like sheep and cows don’t usually eat things with which they are unfamiliar.”

“When we find the best plants, they might be introduced as pasture plants, or, if they are unpalatable, an extract could be made into pellets or added to drinking water.”

But Dr Vercoe said they would prefer to avoid introducing the antimicrobial compounds in water, because, even though they would be natural, the consumer may still see them as additives.

“The best alternative would be to find the compounds in a plant that is palatable and improve on that species through breeding,” he said.

“We need to be innovative with grazing habits, exposing sheep and cattle to new plants and integrating them into the grazing system.”

He said pasture diversity would not only replace antibiotics in meat production, but would improve plant and animal diversity.

“Agriculture and natural resource management are inseparable these days. The work we are doing is focussed on animals but it must fit into a sustainable agricultural system. That’s why the specialists in animals, plants, soil and economics are constantly communicating. Each branch is dependent on the others,” Dr Vercoe said.

Peter Hutton’s research has an APA and a CSIRO scholarship and is also funded by the Salinity CRC, a Department of Education, Science and Training grant and a UWA Seeding Fund Grant.

# Network lights up teamwork

A new Australian science network is offering generous travel grants to encourage cross-disciplinary collaborations.

The network for Fluorescence Applications in Biotechnology and Life Sciences (FABLS) has joint funding from the Australian Research Council and the National Health and Medical Research Council of \$500,000 a year for five years to bring together more than 60 leading researchers using the latest fluorescence technologies.

Fluorescent molecules and chemicals – which naturally glow when struck by a light of a certain colour – provide a powerful tool which can be used for immediate medical diagnostics and to resolve scientific questions such as an understanding of processes in living cells.

Fluorescent molecules attached to cellular proteins can help track their movement, so that progress of drug therapies can be monitored. Similar fluorescent molecules are already being used to screen for disease-causing microbes in water supplies.

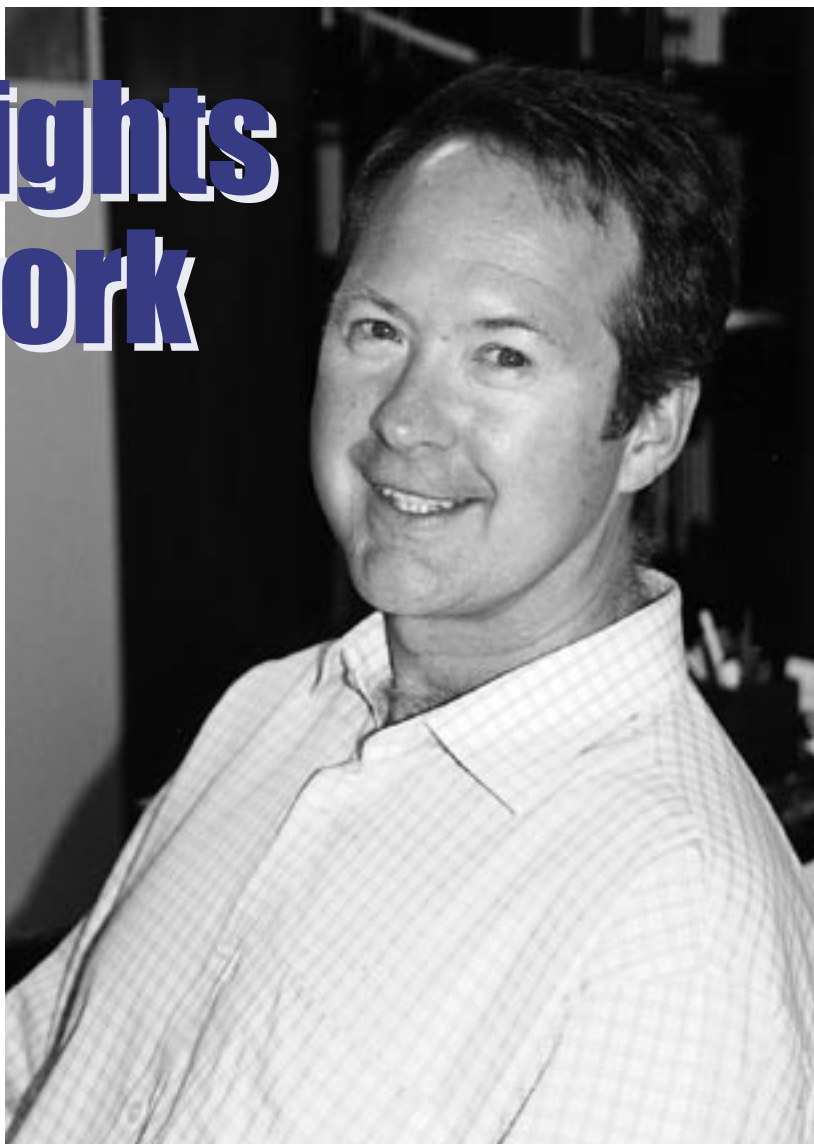
Professor David Sampson (pictured) from Electrical, Electronic and Computer Engineering, says the FABLS network is designed to inspire and co-ordinate a research program relating to the applications of fluorescence.

“The funding will enable researchers using the technologies to meet and exchange ideas, and will facilitate collaborations between people with different skills,” he said.

“Imagine you want to design a new nanoparticle fluorophore, a system to tag it to a particular part of a certain cell type, and fill it with a pharmaceutical that you can activate when it finds its target – it’s still just a dream, but the network will be a great place to look for the team to work on it with you.

“This is, in macrocosm, what I do in microcosm.

“Research teams across the country – in biology, physics, chemistry, bioengineering and medicine – are currently using fluorescent technologies. By encouraging interaction between



them, this Network will facilitate the transfer of scientific approaches to resolve industrially relevant problems in areas such as public health, safety of foods and environmental monitoring.”

Through its focus on academic-industry collaboration, the network will help turn basic scientific discoveries into commercial outcomes.

Professor Sampson said the global market for fluorescence-based products was estimated at billions of dollars per annum.

Cross-disciplinary projects already undertaken by FABLS network members include the development of laser-based biochemical assays to instantly recognise heart attack, and extraction of commercially significant fluorescent proteins native to Australian coral reefs.

“There is plenty of scope for UWA scientists to join the network,” Professor Sampson said.

Contact: Professor David Sampson or the Network’s homepage – <http://www.physics.mq.edu.au/research/fluoronet/>

ARC/NHMRC NETWORK

FLUORESCENCE APPLICATIONS



# Physics



## Special theories and quantum mechanics

It is 100 years ago that a young Swiss patents clerk\* wrote three papers on physics and submitted them for publication to a German physics journal.

One of them explained the nature of light and eventually won him a Nobel Prize. The second, on Brownian motion (the behaviour of small particles in suspension) provided proof that atoms do exist. The third, his Special Theory of Relativity, became the cornerstone of modern physics and changed the way scientists thought about almost everything.

It was the dawn of a new age in modern physics.

But now, as the science world celebrates the Einstein Year of Physics, Albert Einstein's special theory is being questioned – at UWA and around the world. Is this the beginning of the next age, when quantum mechanics proves Einstein wrong?

To mark the **Einstein Year of Physics**, we look at this project and other activities in the School of Physics.

(\* Einstein gave up his German citizenship to avoid military conscription.)

## Gradiometer gets off the ground

An invention by a UWA physicist could change the face of mineral exploration.

But politics, company takeovers and mergers, and lack of funding have stalled its completion for 17 years.

Now Dr Frank Van Kann and his team are gearing up again to build their gravity gradiometer, with the help of \$2.5 million over the next five years from a Canadian company, which has little experience but big ambitions in mineral exploration.

The gravity gradiometer is a tool which detects density contrasts in geological structure. It is designed to be flown in a plane over potential oil or mineral deposits and it detects changes in the gravitational fields produced by ore bodies beneath the surface.

It uses low temperature superconductor technology and Dr Van Kann says the gradiometer, which is about the size of a human adult (standing), and weighs 200 kilograms, can find density contrasts in any material, but its biggest impact would be in the mineral exploration field.

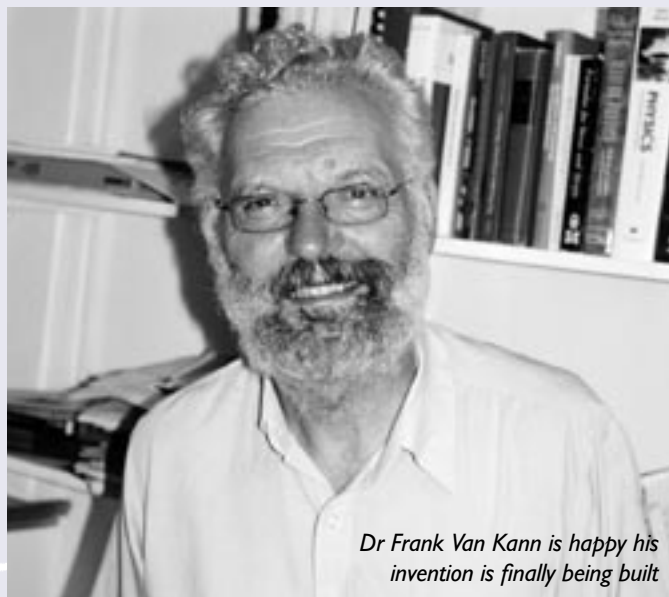
The saga that, so far, has ended productively, began in 1988 when Dr Van Kann's team in Physics negotiated a research agreement with BP Minerals (a very small part of BP Petroleum).

"BHP Billiton has a similar exploration tool, built by Lockheed and Martin when the US military declassified their version of it. But it uses 1970s technology, and is really not quite good enough," Dr Van Kann said.

"Although we haven't flown ours yet, we know it is better by at least a factor of 10," he said.

A year after the agreement was signed, BP Petroleum needed cash and sold BP Minerals to a British company, RTZ (which owned 49 per cent of the Australian mining company CRA).

"They became the new owners of the intellectual property but had no idea about it and didn't see the value of it," Dr Van Kann said.



*Dr Frank Van Kann is happy his invention is finally being built*

"I had to sack everybody, put the invention into mothballs and get the University to finance our team members to finish their PhDs.

"It was not until 1993 that CRA realised BHP Billiton was using this technology and they did not want to be left behind. So a new agreement was signed between UWA, RTZ and CRA. The project was shipped off to CRA headquarters in Melbourne, and I was seconded for five years, to work on it in their research labs.

"But they invested a lot of money and time in looking at aspects of the gradiometer that might not work, instead of just building it."

He said that in 1998, RTZ and CRA changed their names, to Rio Tinto PLC and Rio Tinto Ltd respectively, and declared that their shares were interchangeable.

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"This dual listing was a way around a takeover by RTZ that would never have been approved by the Australian government," Dr Van Kann said.

"The new company decimated their exploration operations and sacked hundreds of geoscientists, so they certainly didn't need a new exploration tool, and we were out in the cold again."

Dr Van Kann spent a few years working with Rio Tinto Ltd trying to attract partners to put up the money to finish the project. "But Rio Tinto always wanted a huge stake in the invention, at which potential partners balked."

During this time, Dr Van Kann was back working in the School of Physics at UWA, while still being on Rio Tinto's payroll, looking for funding.

"Then, in 2000, a Canadian company, Gedex, said it was interested. They are not a mining company. The closest they had come to being involved in exploration was the invention of a portable geochemistry laboratory.

"They spent at least \$10 million over the next few years, but also threw another spanner in the works. Although our gravity



*The gravity gradiometer stands close to two metres tall and weighs 200 kilograms*

gradiometer is designed to work without needing a special environment, Gedex's parent company, Business Arts, made the case that their invention, a micro-gravity platform, would enhance the gradiometer.

"That platform needs four or five times the funding of our gradiometer to develop it. We just needed a few million dollars to build it, test and fly it.

"I couldn't bear to see money being squandered, so I resigned from my consultancy retainer, which then meant that, under the terms of my contract, I wasn't allowed to work in the field for another 12 months."

During that year, Dr Van Kann was asked to help out a group at Cambridge University to develop their version of the gradiometer. Now that the year has passed, Gedex is unwilling to see his expertise go elsewhere, so the company has agreed to fund the final stages of the project.

"We've put in for an ARC linkage grant, but whatever the outcome, Gedex will fund us through to completion now," he said.

So the Physics team is gearing up again, and gathering postdocs and PhD students to realise a project that's been nearly 20 years in the making.

# A testing time for Einstein

## Special Relativity – will it survive the next 100 years?

This was the question asked at a high level physics conference in Germany in February, marking the international Einstein Year of Physics.

UWA's Associate Professor Mike Tobar was one of only nine physicists from around the world invited to describe how they were putting Einstein's special theory to the test.

Special relativity is one of the pillars of modern physics. It is a formal and physical framework for all physical theories and it radically changed our understanding of space and time.

But, a hundred years on, the theory has been confronted with high precision experiments. Due to the need for a quantum gravity theory, special relativity is under pressure.

For almost a year, A/Professor Tobar's team in the Frequency Standards and Metrology lab in the School of Physics has been experimenting and refining their methods to find a violation of the Lorentz invariance. (Lorentz was a Dutch physicist who found that the laws of physics remain constant irrespective of the frame of reference. The Lorentz invariance is one of the fundamental postulates of relativity.)

"We have improved, by a factor of four, on the best test of the theory of relativity," A/Professor Tobar said.

They are using cryogenic sapphire oscillators at microwave frequencies, to measure light velocity with respect to an atomic



*A/Professor Mike Tobar and PhD student Paul Stanwix set the sapphire oscillators before running another experiment*

clock. The experiment examines the effect of the Earth's motion on the speed of light with exquisite accuracy.

It may take years to get the desired outcome but A/Professor Tobar is, as always, enthusiastic and positive.

"It's not something that we'll suddenly discover, then be lauded around the world. It is likely that, if we can disprove the theory of relativity, we will not be believed at first. Einstein's special theory was almost ignored when he published it in 1905. It was another theory that he published that year that won him the Nobel Prize.

"Einstein thought quantum mechanics was wrong. We think special relativity is wrong. And we will continue to test his theory."

A/Professor Tobar has offered his services to the Australian Institute of Physics for this year and has already been lecturing to high school students, inspiring them to take physics further when they leave school.



# Chemist morphs into physicist

Coming to UWA to do his PhD gave American Fulbright scholar Michael Zalich an identity crisis.

It was not because his seasons were turned upside down, living in another hemisphere. It was working in the School of Physics, when he had always been a chemist.

"I suppose I am actually a materials scientist, but all my work had been in the discipline of chemistry, when Judy Riffle (Michael's adviser and a Professor of Chemistry) at Virginia Tech, suggested I come work with Tim St Pierre, a physicist, at UWA!" Michael said.

He has been working with Associate Professor St Pierre on magnetic and structural characterisation of polymer-coated magnetic particles, a cross-disciplinary project involving the Schools of Physics, Chemistry and the Centre for Microscopy and Microanalysis (CMM).

"Very few Fulbrights come to UWA," Michael said. "I guess it's because Perth is so remote and we don't know about the research happening here, but I'm so glad I came.

"The facilities here are so good that I extended my stay for a further 12 months, fully funded from the States."

Another American Fulbright, Cara Weisbrod, the first Fulbright scholar to choose UWA, also extended her scholarship so she could complete her PhD, which she did last year.

Michael said he had been using the transmission electron microscopes at the CMM to study the structural properties of the material and a SQUID magnetometer in the School of Physics to analyse the magnetic properties of the materials.

"We have been designing polymer magnetic nano-particles for use in biomedical applications. They could potentially be used for drug delivery, retinal detachment treatment and biotoxin removal.

Michael has recently completed a draft of his dissertation and returned to Virginia Tech, where he will submit it to a committee, and then be asked to verbally defend it.

"It's a much quicker process than marking by examiners, which happens here. It can all be over and I'll have my degree – hopefully – by mid-May, instead of the three to six months it can take to have a thesis marked in Australia."

One of the committee who will examine Michael and his work will be his co-adviser, A/Professor St Pierre, who might be present in person or may take part via a telecommunications link.



*A/Professor Tim St Pierre congratulates Michael Zalich on completing his PhD, the day before he returned to Virginia Tech*

## Einstein Returns!

The great man himself will make a special appearance on campus tomorrow, Tuesday April 5.



Albert Einstein impersonator Patrick Helean is coming from Canberra to enhance two physics shows, to celebrate the international Einstein Year of Physics.

Professor David Blair and a colleague from Murdoch University, Professor Igor Bray, are putting on a show for high school students in the Octagon Theatre at 2pm. Then, at 6.30pm, there is a free public lecture by Professors Blair and Bray and 'Einstein'.

Physics students from Shenton College will be dressing up as young Einsteins to help with the afternoon presentation. Their involvement is part of the Learning Links program between the College and the University.

Be early for the evening lecture, as a full house is expected.

# French connection for computers



PhD candidate Peter Metaxas has two iconic scientists to thank for his double-badged degree in physics from UWA and the Laboratory for Solid State Physics, University Paris South – Einstein and Marie Curie.

His research revolves around the spin responsible for magnetization in metals. In 1905, Einstein's paper on special relativity later proved essential to our understanding of why there is such a thing as spin in the first place.

Peter will study changes in the magnetization due to Brownian motion—another topic treated in Einstein's 1905 papers.

Lastly, Peter's experiments will make use of how light interacts with spins on nano and sub-nanosecond time scales. The quantization of energy levels is key to understanding this phenomena, and again we have Einstein to thank for the first of his 1905 papers in which essential notions of quantum mechanics were proposed.

And he has just won a Marie Curie Fellowship to fund the Paris side of his PhD. (He has an APA scholarship for the rest of his degree.)

After completing an Honours project on magnetic reversal in thin films, supervised by A/Professor Bob Stamps, Dr Rob Woodward and Dr David Crew, Peter decided he would like to embark on a PhD and Professor Stamps recommended he spend some time at the Paris Laboratory for Solid State Physics.

"It is the best place for what Peter is doing, and I'm sure he will be up to the challenge," A/Professor Stamps said. "He was able to get a sensitive optical thin film experiment to work at low temperature in Honours, and most importantly, identify and correct it for numerous artifacts. It is quite an accomplishment."

A/Professor Stamps earned his own compliments from the Head of the School of Physics, Dr Ian McArthur, who said that Peter's success in winning a Marie Curie Fellowship was due in no small part to the international regard in which his supervisor is held.

*Peter Metaxas (left) and Associate Professor Bob Stamps ponder a chaotic pendulum, analogous to the behaviour of which Peter will be studying on a scale of nanoseconds*

A/Professor Stamps explained that the problems Peter would be studying in Paris had its roots in UWA research. "They have a new instrument set up there, that works on a completely different time scale from what we have here. And, interestingly, the person who built it, Martin Bauer, spent a few months with us at UWA during the final stages of his PhD before going on to Paris. Martin did here the theory behind his first version of the experiment.

"Since that time we have learned a great deal about the physics governing fast magnetic reversal, and have identified areas in which our initial ideas were incomplete or wrong.

"Peter's further research into magnetic reversal will clarify some of these issues, and explore some exciting and entirely new areas that have opened up in just the past few years. This work will have an impact on how quickly data can be stored and manipulated and at the same time provide us with new systems in which to study quantum mechanical effects governing spin transport," A/Professor Stamps said.

"Imagine 20 gigabytes stored on something smaller than a postage stamp, with no hard drive whirring away, using lots of energy. It may even be possible to create magnetic schemes for logical operations that use much less energy than existing hardware." He said scientists in Europe, Japan and the US were all interested in the sort of research that Peter would be doing in Paris.

Peter's first (of three) six-month trips to France will begin in May. The rest of the four year period for his PhD, he will spend at UWA.

"I'm learning French and I hope to eventually use it all the time over in France but for now the option to use English exists in the Paris lab," Peter said. He feels he is having the best of both worlds, doing the cutting edge experimental work in Paris, and the theoretical work at UWA, with A/Professor Stamps, who has an international reputation as a theoretician.

# A new feel for the Reid Library: safer, brighter, efficient



*University Librarian John Arfield shows Professor Robson around the Reid Information Centre*

The newly completed refurbishments to the Reid Library are evident as soon as you step through the front door.

Instead of the rather unwelcoming façade that used to greet students, the entrance is now bright, open and spacious.

The renovations were formally opened recently at what University Librarian John Arfield called “the launch of a vision realised”.

At the launch, the Vice-Chancellor, Professor Alan Robson said it was important that students felt welcome in the library.

“What you’ve done here is incredibly important to the University. One of our top priorities is to improve the student experience, and that is not limited to the classroom.

“We tend to overestimate the confidence of students. They often appear to be very confident but can be quite daunted in their early days on campus. A welcoming space like this is so important,” Professor Robson said.

The opportunity for long-planned refurbishments came when, more than a year ago, fire prevention and security upgrades became necessary.

Mr Arfield said most of those changes were invisible, except for the enclosure of the two central stairwells as a means of fire retardant. The rest of the \$1.3 million has been spent on water pipes and tanks and a complete (invisible) fire fighting system.

With that work scheduled, a further \$1 million worth of renovations was planned. The ground floor is now called the Reid Information Centre, with double the number of computers there previously, grouped workstations for collaborative work, more software on the computers, so students can do everything at the one work station, video and DVD viewing stations, and staff from University Computing Services based at the Centre, so students have immediate access to a computer help desk.

There are new reading areas with comfortable chairs overlooking James Oval and a dedicated classroom with computers and a projection screen. There are better facilities for students with disabilities, and easier access to copying and library administration service points.

Mr Arfield thanked Facilities Management staff for their hard work, “often in frustrating circumstances”, and his own Library

staff for their part in working around the building program and moving whole sections while keeping the library open and operating.

Natalie Mast, the President of the Postgraduate Students Association, said the library had been transformed since she had started as an undergraduate student. She said the new help desk was a great idea and thanked the Library and the University on behalf of all the students.

Mr Arfield said the feedback from students had been very positive. “They love it,” he said.



*Guild President Natalie Hepburn, Librarian Ralph Kiel and guest, Susan Henshall, Faculty Manager for Medicine and Dentistry, feel comfortable in the new Reid Library entrance*

## Absent Premier reclaims Cup

Dropping the Premier from his own cricket team proved the right thing to do, at UWA’s Festival of Cricket.

The Premier’s XI (5/194) beat the Vice-Chancellor’s XI (6/193) with 11 balls to spare in a 20-20 match, the John Inverarity Cup being reclaimed by the absent Premier, who was on leave. His place was taken by the Speaker of the Legislative Assembly, Fred Riebling.

Craig Simmons, a member of the Western Warriors squad, played for the Premier’s team and was named Man of the Match, after scoring 82 runs.

The celebrity day of cricket on James Oval was enjoyed by more than 200 guests. The coin was tossed by the visiting Minister of Higher Education from Malaysia, Dato’ Dr Haji Shafie Bin Haji Mohd Salleh.



## How to get into print

All notices, classified ads and redundant equipment can now be sent to our new email address:

[staffads@uwa.edu.au](mailto:staffads@uwa.edu.au)

We are no longer publishing Campus Diary, as these events are now available on the Web at <http://events.uwa.edu.au>

Instead of the Info Lift-out, we have made the magazine bigger by four pages, and all the information that used to be in the lift-out (except for Campus Diary) is now in the inside back pages.

Please call Maryvonne Bestel in Public Affairs (6488 1900) or Lindy Brophy, editor UWAnews (6488 2436) if you have any queries.

## RESEARCH GRANTS AND CONTRACTS

### ASTHMA FOUNDATION

**Prof Geoffrey Alexander Stewart, Dr Andrew Stewart McWilliam**, Biomedical and Chemical Sciences, External: 'The Potential Role of Peptidoglycan From Gram-Positive Bacteria From Mites and House Dust in Asthma Aetiology'—\$45,000 (2005)

### ASTHMA FOUNDATION

**Mrs Janet Anne Dunstan, A/Prof Susan Lynne Prescott**, Paediatrics and Child Health: 'Antioxidants and Immune Function in Asthma and Allergic/disease: A Randomised Controlled Trial'—\$25,000 (2005)

### FISHERIES R&D CORPORATION

**Dr Euan Sinclair Harvey, Dr Michael Mackie, Dr Rob McCauley, Dr Howard Gill**, Plant Biology, External: 'Management and Monitoring of Fish Spawning Aggregations Within the West Coast Bio-region of Western Australia'—\$20,000 (2004-05)

### AINSE RESEARCH TRAINING

**Ms Shari Louise Forbes, Dr Ian Robert Dadour**, Centre for Forensic Science, Life and Physical Sciences Office: 'Dating Skeletal Remains of Forensic Interest - Containment Issue and Further Analysis'—\$9,060 (2005)

### AINSE RESEARCH TRAINING

**Dr Gary Andrew Kendrick, Ms Nisse Aloma Goldberg**, Plant Biology: 'Radiocarbon Dating of Rhodoliths Collected From Esperance Bay, Western Australia'—\$10,065 (2005)

### JETT FOUNDATION

**Dr Stephen Donald Wilton**, Centre for Neuromuscular and Neurological Disorders: 'Jett Foundation Scholarship'—\$15,000 (2005)

### LAW SOCIETY OF WA PUBLIC PURPOSES TRUST

**Ms Judith Fordham, Dr Ian Robert Dadour**, Anatomy and Human Biology, Centre for Forensic Science: 'Jurors, Juries and Expert Evidence'—\$21,815 (2005)

### WA FISHING INDUSTRY COUNCIL

**Dr Lin Fritschi, Dr Kym Deanne Mina**, Population Health: 'Fish Consumption, Omega-3 Fatty Acids and Cancer'—\$5,000 (2005)

### DEFENCE SCIENCE & TECHNOLOGY ORGANISATION

**Dr Robert Charles Woodward, Mr David Campbell Crew**, Physics: 'Current Status of Magnetostrictive Materials'—\$20,000 (2005)

### CONSERVATION AND LAND MANAGEMENT

**Dr Gerald Kuchling**, Animal Biology: 'Western Swamp Tortoise Recovery'—\$49,926 (2005)

### CANCER COUNCIL OF WA

**Dr Marie Ann Bogoyevitch, Dr P M Watt**, Biomedical and Chemical Sciences, Institute for Child Health Research: 'New Approaches to Target Breast Cancer: Screening for Novel Inhibitors of the Protein Kinase Aurora-A'—\$51,950 (2005-06)

### WA HEALTH PROMOTION FOUNDATION

**Ms Helena Lesley Iredell, A/Prof D Boldy, Ms L Grenade, Ms L Dhaliwal, A/Prof P Howat**, Population Health, External: 'Loneliness and Social Isolation In Later Life - Prevalence and Interventions'—\$176,956 (2005-06)

### GRAINS R&D CORPORATION

**Dr W M Porter, Prof Zdenko Rengel**, Earth and Geographical Sciences, Natural and Agricultural Sciences: 'Profitable and Sustainable Nutrient Management in the WA Grains Industry'—\$793,000 (2005-08)

### NHMRC: EQUIPMENT GRANTS

**Dr John Warwick Upham, A/Prof Susan Lynne Prescott, Prof Patrick G Holt, Prof Wayne Robert Thomas**, WA Centre for Child Health Research, Medicine and Dentistry, Paediatrics and Child Health: 'NHMRC Equipment Grant 2005 - Automacs Magnetic Cell Sorter'—\$49,375.70 (2005)

### NHMRC: EQUIPMENT GRANTS

**Prof Svend Peter Klinken, Prof George Cheng Yeoh, A/Prof**

**Lawrence Joseph Abraham, Prof David Ravine**, UWA Centre for Medical Research, Biomedical and Chemical Sciences, Medicine and Pharmacology: 'NHMRC Equipment Grant - GE Storm 820 Phosphoimager'—\$47,528.80 (2005)

### DEPARTMENT OF HEALTH AND AGEING

**Prof Gary Kenneth Hulse, Dr Diane Elizabeth Arnold-Reed, Mr Robert James Tait**, Psychiatry and Clinical Neurosciences: 'Biopsy Information On Biodegradability of Naltrexone Implant'—\$24,245 (2005)

### PFIZER PTY LTD

**Ms Kathleen Potter, Dr Daniel John Green, Clin/A/Prof Graeme J Hankey, Prof Leonard Felician Arnolda**, Medicine and Pharmacology, Human Movement and Exercise Science: 'The Effects of Long-term Treatment with Folic Acid, Vitamin B6 and Vitamin B12 on the Vascular Structure and Function of Stroke Patients: A Randomised, Controlled Trial'—\$49,925 (2004)

### ARC LINKAGE GOULBURN-MURRAY WATER MELBOURNE WATER

**Prof Jorg Imberger**, School of Water Research: 'Maximizing Reservoir Water Quality Security through the use of a Lake Diagnostic System (LDS) and a Controlled Lagrangian Drogue (CLD)'—\$1,114,000 (2004-06)

### ARC LINKAGE CONSERVATION AND LAND MANAGEMENT FOREST PRODUCTS COMMISSION

**A/Prof Julie Anne Plummer, A/Prof Emilio Luciano Ghisalberti, Dr E Barbour, Dr M M Byrne**, Biomedical and Chemical Sciences, Plant Biology, External: 'Indian Sandalwood: Genetic and Oil Diversity, and oil Biochemistry of the Australian Germplasm Collection'—\$87,608 (2004-07)

### ARC LINKAGE SVT ENGINEERING CONSULTANTS

**Prof Jie Pan**, Mechanical Engineering: 'Transient Vibration in Pipeline Systems' Collection'—\$357,237 (2003-07)

### ARC LINKAGE

**Dr Li Ju, Prof David Gerald Blair, Dr A Veryaskin**, Physics, External: 'Vibration Isolation Technology and Instrumentation for Geophysical Surveys'—\$108,016 (2004-07)

### WORSLEY ALUMNA

**Dr Mark Tibbett**, Earth and Geographical Sciences: 'Investigation Into Factors Affecting Establishment of Native Plant From Seeds at Boddington Bauxite Mine'—\$23,737 (2005-06)

### NATIONAL HEART FOUNDATION

**Dr John Philip Beilby, Dr CML Chapman, Clin/Prof Peter L Thompson, Prof Lyle John Palmer**, Surgery and Pathology, Medicine and Pharmacology, UWA Centre for Medical Research, External: 'Genetic Polymorphisms and Environmental Factors that Affect HDL Metabolism'—\$56,470 (2005-06)

### CLIVE AND VERA

#### RAMACIOTTI FOUNDATION

**Dr Giles Winston Plant, A/Prof Sarah Alison Dunlop, Prof Alan Robert Harvey, Dr Samantha Busfield, Mrs Qin Yu, Dr Qi Cui**, Anatomy and Human Biology, Plant Biology, Animal Biology, UWA Centre for Medical Research: 'Purchase of a Swinging Bucket Ultracentrifuge Rotor (Beckman SW32Ti)'—\$30,000

### CLIVE AND VERA

#### RAMACIOTTI FOUNDATION

**Prof Paul Gerard Mcmenamin**, Anatomy and Human Biology: 'Purchase of a Motorised Upright Nickon Fluorescent Microscope for Basic and Applied Medical Research'—\$30,000 (2005)

### ROYAL PERTH HOSPITAL - FAIRFAX FELLOWSHIP

**Dr Poh-Kooi Loh**, Medicine and Pharmacology: 'Networking Residential Aged Care Services (RACF) for Better Health Outcomes'—\$40,000 (2005)

### ROYAL AUSTRALASIAN COLLEGE OF PHYSICIANS

**Dr Leon Anton Adams, Prof John Kevin Olynyk**, Medicine and Pharmacology: 'Hepatic and Metabolic Outcomes of Patients with Unexplained Elevated Aminotransaminases of Unexplained Etiology'—\$22,000 (2005)

### AUSTRALIAN ACADEMY OF SCIENCE

**A/Prof Martin Barbetti**, Plant Biology: 'Integrated Management in Oilseed Brassicas of Resistance - Bede Morris Fellowship Scheme Scientific Visits to Europe, 2005/06'—\$10,700 (2005)

### NHMRC TRAINING FELLOWSHIPS

**Dr Kevin Pflieger**, UWA Centre for Medical Research: 'Investigating Novel Protein Interactions With the Gonadotropin-Releasing Hormone (GNRH) Receptor'—\$66,000 (2005-08)

## NOTICES

### THE ANNUAL CASSAMARCA LECTURE

by Professor Dr Walther Ludwig,  
Emeritus Professor of Classics, University of Hamburg  
**'Astrology in Antiquity, in the Renaissance, and Today'**.  
Date and Time: Monday 4 April 2005 at 6.30pm.  
Venue: Geography Lecture Theatre 1, UWA  
Admission: Free

### GLOBALISATION – ETHICAL CHALLENGES

Fr John Coleman SJ, Professor of Social Values  
Loyola Marymount University, Los Angeles  
Date and Time: Wednesday 13 April, 2005 at 7.30pm  
Venue: Octagon Theatre, UWA  
Admission: Free

### WATER CORPORATION OF WESTERN AUSTRALIA AND THE UNIVERSITY OF WESTERN AUSTRALIA

present a public lecture by Professor Ian Lowe AO, Emeritus,  
Science, Technology and Society Griffith University, Brisbane:  
**"Climate change, our lifestyle choices and the accelerating  
extinction of species"**.

Date and Time: Thursday 14 April, 2005 at 6.30pm  
Venue: Octagon Theatre, UWA  
Admission: Free

### WORKSHOP PRESENTED BY THE INSTITUTE OF ADVANCED STUDIES, THE UNIVERSITY OF WESTERN AUSTRALIA IN CONJUNCTION WITH THE CENTRE FOR CLINICAL INTERVENTIONS (CCI)

by Professor Christopher G. Fairburn, University of Oxford:  
**"Transdiagnostic" Cognitive Behaviour Therapy  
for Eating Disorders.**

Date and Time: Monday 9 and Tuesday 10 May, 2005, 9.00am - 5.00pm  
Venue: Seminar room 1, University Club, UWA  
(adjacent to Old University House)  
Admission: Registration essential.

For more information and on how to register please contact the Institute of  
Advanced Studies on (08) 6488 1340 consult our website at [www.ias.uwa.edu.au](http://www.ias.uwa.edu.au)

### UWAnews Deadlines

**WEDNESDAY**  
April 6 for April 18  
publication

**WEDNESDAY**  
April 20 for May 2  
publication

**WEDNESDAY**  
May 4 for May 16  
publication

**WEDNESDAY**  
May 18 for June 6  
publication

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or 0411 774 991 for further  
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**LOCK-UP GARAGE** (lease up to  
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## CALL FOR APPLICATIONS TO THE TEACHING FELLOWSHIP SCHEME

The Teaching and Learning Committee is offering five \$20,000 Teaching Fellowships across the University. This is a new scheme which will be offered on an annual basis.

The Teaching Fellowship Scheme is designed to support the University's teaching and learning priorities as identified in the Operational Priorities Plan. It will enable these priorities to be supported and embedded in locally relevant ways and provide the opportunity for the development of individual Fellows' teaching portfolios.

The guidelines and application process for the Teaching Fellowship Scheme are available on the web at

[http://www.teachingandlearning.uwa.edu.au/tl/committee/awardsschemes/teaching\\_fellowship\\_scheme](http://www.teachingandlearning.uwa.edu.au/tl/committee/awardsschemes/teaching_fellowship_scheme).

Queries should be forwarded to Sue Smurthwaite, Executive Officer (Teaching and Learning Policy) on ext 2459 or email: [ssmurthwaite@admin.uwa.edu.au](mailto:ssmurthwaite@admin.uwa.edu.au)

**The deadline for submissions is Friday, 29 April 2005.**



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## REDUNDANT EQUIPMENT


*Bids should be accepted by Monday 18 April with schools to have first option*

ITEM	PRICE	AGE	COND.	SECTION	CONTACT
Computer PC PC800/128/20Gb/Rom/Zip/17Screen	\$125	3-4years	2	Economics and Commerce	Glenys Ext 2920
Computer PC PC800/128/20Gb/Rom/Zip/No Screen	\$75	3-4years	2	Economics and Commerce	Glenys Ext 2920
Computer PC PC PIII/866/128/20Gb/Rom/Zip/Screen	\$150	3-4years	2	Economics and Commerce	Glenys Ext 2920
1 Touch Panel AMX AXT-CA10	\$3,500	4years	2	CTEC	Andrew Bekker 6488 8632
1 Controller MPE AMX AXB-MPE+	\$1,500	4years	2	CTEC	Andrew Bekker 6488 8632
1 Pre Audio Routers Autopatch AUDIO 4YDM 24X4	\$4,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Controllers AMX AXCENT 3PRO	\$2,500	4years	2	CTEC	Andrew Bekker 6488 8632
1 Touch Panel Interface AMX AXB-TPI	\$3,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Video Router Autopatch EPICA 128X80	\$120,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Audio Router Autopatch 4ydm32x32	\$6,000	4years	2	CTEC	Andrew Bekker 6488 8632
5 Small Monitors Panasonic WVCM1470	\$500	4years	2	CTEC	Andrew Bekker 6488 8632
4 Large Monitors Panasonic WVCM2000	\$500	4years	2	CTEC	Andrew Bekker 6488 8632
1 Video Router Autopatch 8YDN40X48	\$8,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Vision Mixer Panasonic WJAVE55	\$2,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Logo Generator Techtel Bugshot	\$2,000	4years	2	CTEC	Andrew Bekker 6488 8632
4 Tandberg 6000 Tandberg Vis 6000	\$15,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Tandberg 5000 Tandberg Vis 5000	\$5,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Tandberg 2500 Tandberg Vis 2500	\$5,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Audio Router Autopatch 4YDM32X32	\$6,000	4years	2	CTEC	Andrew Bekker 6488 8632
4 Quad Units Panasonic WJMS488	\$1,500	4years	2	CTEC	Andrew Bekker 6488 8632
2 Slide Previews Kodak, B&H	\$200	4years	2	CTEC	Andrew Bekker 6488 8632
1 Accent Pro 3 Case No Boards AMX AXCENT 3PRO	\$2,500	4years	2	CTEC	Andrew Bekker 6488 8632
1 Touch Panel Interface AMX AXB-TPI	\$3,000	4years	2	CTEC	Andrew Bekker 6488 8632
2 Accent Pro 3 AMX Accent Pro3	\$3,500	4years	2	CTEC	Andrew Bekker 6488 8632
1 Equipment Racks	\$300	4years	2	CTEC	Andrew Bekker 6488 8632
1 SVHS Recorder Panasonic AG7700	\$1,500	4years	2	CTEC	Andrew Bekker 6488 8632
4 Slide Projectors Kodak 5020	\$1,000	4years	2	CTEC	Andrew Bekker 6488 8632
2 Data Projectors NEC MT 1045	\$500	4years	2	CTEC	Andrew Bekker 6488 8632
3 Audio Mixer Mackie SR 24.2	\$2,500	4years	2	CTEC	Andrew Bekker 6488 8632
2 Audio Mixer Mackie SR 32.2	\$3,000	4years	2	CTEC	Andrew Bekker 6488 8632
1 Audio Mixers Mackie SR 32.8	\$4,000	4years	1	CTEC	Andrew Bekker 6488 8632
15 Panasonic DVC Pro Recorders Panasonic AJD450E	From \$8,000	4years	2	CTEC	Andrew Bekker 6488 8632
2 Panasonic DVC Pro Recorders Panasonic AJD450E	From \$4,000	4years	3	CTEC	Andrew Bekker 6488 8632

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

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 barcode please contact extension 3618/2546 for details.



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**The Asthma and Allergy Research Institute  
2005 Medical Research Seminar Series**

AARI is pleased to present the following program of presentations by leading Western Australian scientists. Individuals with an interest in these topics are warmly invited to attend.

TIME	LOCATION
12:30pm – 1:30pm <i>A light lunch is served at 12.</i>	Joske Seminar Room University Department of Medicine & Pharmacology 4th Floor, G Block Sir Charles Gairdner Hospital

11 April 2005 **Potential Bronchoprotective Effects Caused by Stimulation of Protease-Activated Receptor-2 (PAR2) in the Airways of Allergic Mice.**  
Dr Peter Henry, *School of Medicine and Pharmacology, UWA.*

9 May 2005 **Mechanism of Transrepression of TNF-alpha promoter in Macrophages by Glucocorticoids.**  
Prof David Joyce, *School of Medicine and Pharmacology, UWA.*

23 May 2005 **Understanding Hormone Action: Some Insights and Many Questions.**  
Prof Peter Leedman, *Western Australian Institute of Medical Research.*

13 June 2005 **Cytokines and Inflammation.**  
A/Prof Prue Hart, *Inflammation Group, Institute of Child Health Research.*

27 June 2005 **TBA.**  
Dr Paul Watt, *Leukemia and Cancer Research Unit, Institute of Child Health Research.*

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The Asthma and Allergy Research Institute (Inc).  
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Climate change is real and is accelerating, leading to the extinction of many species. The prospect of catastrophic species losses during our lifetime demands an urgent and concerted response. So where do we find solutions?


Professor Ian Lowe was awarded the Order of Australia in 2001 for his contribution to science and technology, especially in the field of environmental studies. He is presenting a free lecture, rich with information that will make you full bottle on this imperative topic. Introduced by MC Geraldine Mellet, this is the first in a series of lectures addressing our drying climate.

**THURSDAY 14TH APRIL 2005, 6.30PM, OCTAGON THEATRE, UWA**

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# Making good teaching better

Since arriving at UWA last April, I have been getting to know the policies and schemes that have been developed to support and encourage improvements in teaching.

The stakes have recently been raised in this area with Brendan Nelson's focus on measuring the quality of teaching and learning in Australian Universities, and providing substantial financial rewards to the best through the new Learning and Teaching Performance Fund.

There is plenty of evidence about the high quality of UWA's undergraduate programs and student satisfaction with their course of study. For example, in the recent international ranking of universities undertaken by Melbourne University's Melbourne Institute, UWA ranked number one for the quality of its undergraduate programs. But, after many years of steady improvement, that there has been a recent slight decline, as measured by the Course Experience Questionnaire.

How can we make good teaching even better? How can we get more staff interested in discussing and researching good practice? One of the most repeated themes in any discussion about improving and rewarding good teaching is that it is very hard to get any system wide take-up of new knowledge and new teaching practices. Reviews of teaching awards tell us that there are no mechanisms for disseminating the excellent practice that they identify. From my years as an academic I know that providing me with yet another website or clearinghouse in the middle of a busy semester is unlikely to do much to improve my teaching.

So what does UWA already provide by way of systemic incentives? While research productivity is rewarded, we do not, at present, provide any kind of direct budgetary incentives or rewards for good teaching at the School or Faculty level.



Probably the most visible support for teaching and learning is the university's Excellence in Teaching awards – but their systemic impact is limited. Perhaps more important are UWA's criteria for promotion which now give teaching excellence equal weight with research excellence at most levels – though it is not obvious that all academic staff are either aware of this or believe it!

There are two other existing schemes to support and reward teaching excellence at UWA that I want to draw attention to here because they appear to be seriously under-subscribed. The first is the Distinguished Visiting Teachers Fund. A really canny School could be getting \$6,000 a year to support visiting overseas scholars with a track record of innovative teaching. But I've only seen two applications, and only one of them really seemed to understand the purpose and potential of the scheme.

The other scheme is the Distinguished Learning and Teaching Award for Schools – an award specifically designed to encourage systemic work on teaching and learning rather focusing on individual efforts. There have not, as yet, been many applications for this award, so I'd like to emphasise the fact that the winning School doesn't just get a certificate and a pat on the back – it wins enough money to appoint someone to do half a year's work on the teaching and learning needs and priorities in that School. \$35,000 is not to be sneezed at. And we have tried to minimize the work involved in applying by suggesting that Schools can use the regular review cycle to develop a 'teaching portfolio' and submit this rather than prepare anything new.

A review of the national teaching awards scheme found that academics think there are more effective ways to improve teaching. In particular they see creating conditions for the enjoyment of teaching as central, and within this they define a major barrier to improving teaching as increasing workloads and lack of time. This is supported by UWA data from the last Working Life survey, which revealed that more than three quarters of academic staff were planning to make changes to their teaching methods. This very encouraging indicator is, however, strongly offset by the fact that only a quarter of those academic staff thought they had enough time or resources to help them make these changes.

Recognising the extra work involved in researching teaching and learning, or developing new approaches that will be of broader benefit to schools and faculties, the Teaching and Learning Committee has introduced a new Teaching Fellowship scheme (see <http://www.teachingandlearning.uwa.edu.au/tl/committee/awardschemes>). This scheme is designed to give staff the opportunity to focus on a teaching project for one semester without having to carry their normal teaching load. A call for applications will go out in the near future.

The Teaching and Learning Policy Unit is keen to hear from anyone interested in the systematic promotion of good teaching at UWA. There will be an interesting and important debate about this across the sector this year and within the newly formed Carrick Institute ([www.carrickinstitute.edu.au](http://www.carrickinstitute.edu.au)).