UWA news
The University of Western Australia
Celebrating 90 years of achievement 1911–2001
23 April 2001
Volume 20 Number 4

Nobel Laureate meets a WA icon

(and leaves a little advice)

Nobel Laureate Professor Alfred Gillman offered some sound advice to university executives, during his recent visit to UWA.

"When you get good people on your staff and among your students, don't let them go!" he warned.

"Do everything you can to keep them in your department, at your university. Don't allow the brain drain and, above all, don't simply accept that, once somebody's hit the headlines and become famous, that they'll be off to greener fields.

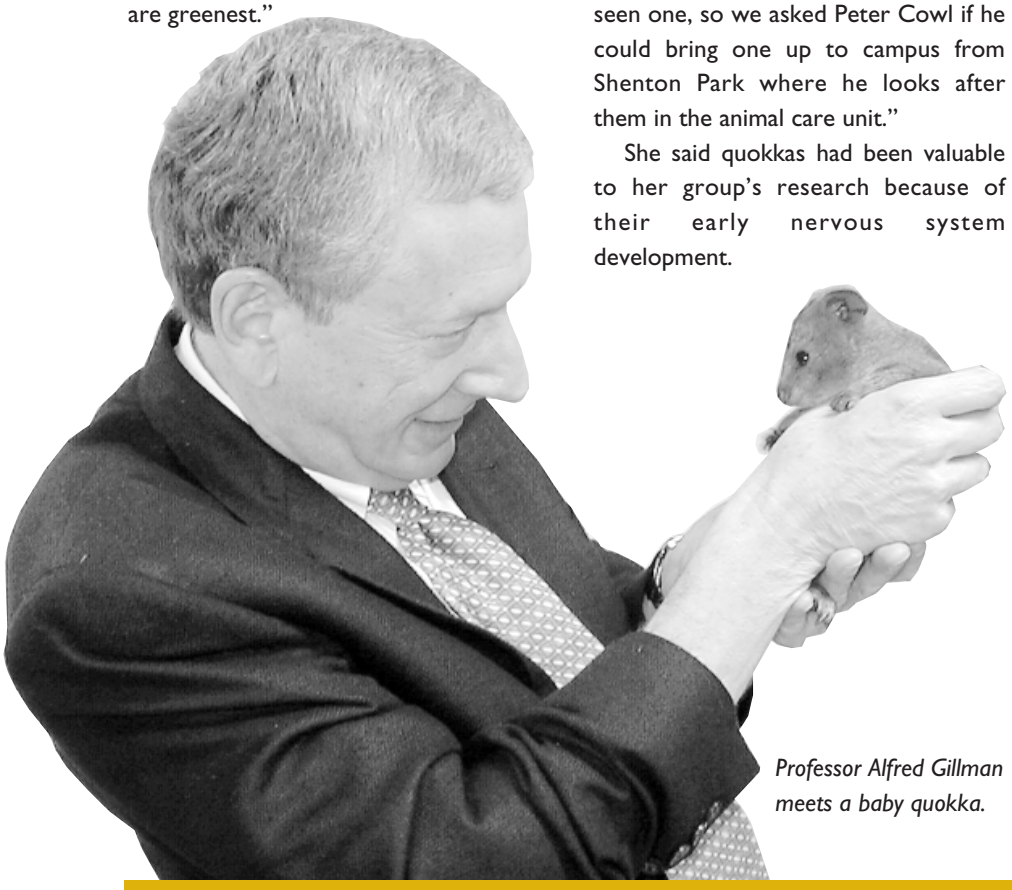
"You must ensure that *your* fields are greenest."

Professor Gillman visited UWA as a guest of the Raine Foundation, to celebrate its 40th anniversary as the biggest non-government provider of medical research funds in WA.

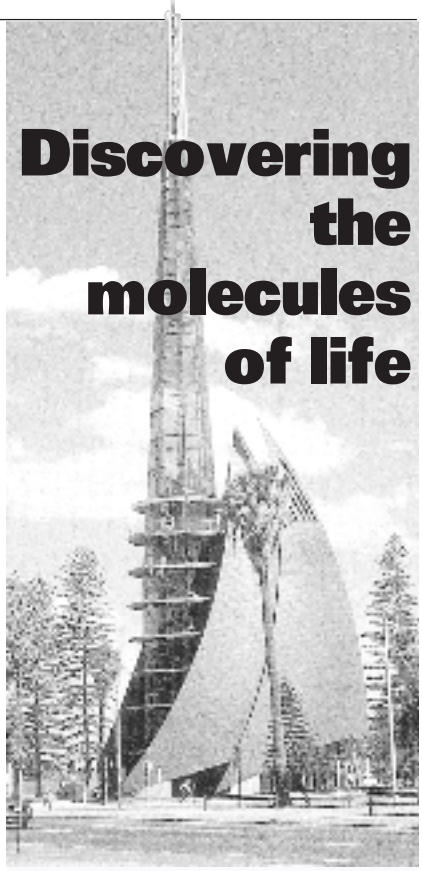
He visited key laboratories of Raine Foundation members, including Professor Lyn Beazley's group in zoology.

"We discussed the family of molecules that are involved in regenerating nerve fibres finding appropriate partner cells," Professor Beazley said. "We used to use quokkas in this research; we don't any more, but Professor Gillman said he'd never seen one, so we asked Peter Cowl if he could bring one up to campus from Shenton Park where he looks after them in the animal care unit."

She said quokkas had been valuable to her group's research because of their early nervous system development.



Professor Alfred Gillman meets a baby quokka.



Discovering the molecules of life

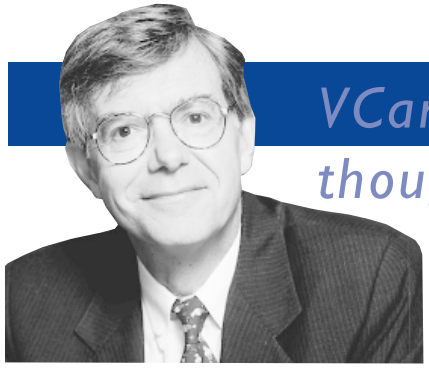
Researchers in the Crystallography Centre have recently made a breakthrough in the study of the *E. coli* version of the molecule that generates energy in all living cells.

Raine Foundation researcher and senior lecturer Dr Matthew Wilce and Healy Foundation fellow Dr Andrew Rodgers have solved the molecular structure of the γ/ε sub-units of the molecule called ATP synthase.

ATP synthase, is made of 24 protein sub-units, some of which are embedded in a cellular membrane, and the rest that face the cytoplasm of the cell where the enzymatic action takes place.

(Turn to page 5 to understand the relationship between this molecule and the Barrack Street Bell Tower!)

Better than the movies ... ?



VCarious thoughts ...

Now be honest – if you were offered a seat at either your two favourite new movies in town, or at our 'Planning and Budget Committee' and the 'Academic Council', which would you choose?

You could have been mistaken in your choice!

There were fascinating debates at both of our university meetings last week about the fundamental changes happening in higher education globally, focused on new degree programs and how these programs are delivered.

Where does UWA stand in these developments? How should we really be responding to these requirements of knowledge-based economies?

The discussions were triggered by two internal documents but they, in turn, reflected our need to engage with the wider world of changing higher education requirements in society.

The Budget and Planning Committee had before it a truly excellent report from Peter Curtis and Jackie Massey (our Registrar, and Assistant Director, Secretariat Services) on professional masters degrees at UWA, set within the context of what is offered at other GO8 research-led universities, and the broader global demand for such post-graduate/post-experience education.

Our programs are admirable, but limited – more so than many other comparable institutions, and well below such a modern university as UNSW. The UWA key plans – the the OPP and Academic Profile – identify the growth of professional masters as a key area for UWA advancement.

Why should that be? Yes, it is a lucrative education market, which assists in our funding growth, diversification and autonomy. But more deeply, it reflects the urgent need of professionals – including many of our alumni – to engage in such mid-career, mid-life, advanced learning and skilling.

Not only does this community need challenge us for a positive response, I personally feel the research-led universities such as ours can and should engage with professional masters more fully because we do it best. Academic excellence, based in a 'scholarship of discovery', is exactly what is needed to ensure that such programs are of the highest educational quality, and therefore, of maximum value to the key professions in a time of intense change.

A closely related issue arose at Academic Council the very same day. We were considering the comprehensive and thoughtful submission from the Faculties of Economics, Commerce, Education and Law, for the delivery of a UWA undergraduate degree in common law, taught entirely off-shore (in Singapore), by our own staff, using a mix of intensive block teaching and e-education. Dr Paul McLeod, as Executive Dean, carefully led us through the Faculty's exhaustive discussions over the past few years in developing this new and challenging precedent in UWA degree programs, and in our internationalisation.

But, we debated, could such a program be a 'real' UWA degree – equivalent to the Crawley campus experience? And, indeed, what was the essence of a UWA degree? Many words later, the proposal was strongly endorsed. Here was a limited program, carefully developed, which aimed to meet the needs of an overseas market for high quality university education, from which we will learn much about the new forms of transnational delivery and education. The challenge of such a degree is to refine and strengthen our sense of what is critical to the UWA experience. Beyond the glories of the campus, there is the core value of critical and interactive learning. That is the real environment we need to create wherever UWA education is offered.

Taken together, both these highly significant developments stress the important sense in which higher education is changing irrevocably as society changes and as we evolve our relationships to the world beyond the campus.

The traditional focus of research-led universities such as ours – essentially educating 17 to 21 year olds on weekdays in our facilities and laboratories, and supervising advanced degrees in our traditional disciplines – is simply broadening, to serve the needs of professionals for post experience education of highest quality, involving more complex social factors of flexible time demands and teaching methods. And within the wider world of our State and Region, UWA is being challenged by the needs of remote communities in WA (starting with our work in Albany) to the graduates and others in places such as Singapore, urgently interested in also being admitted to the special excellence of our degree programs.

Just as a century ago the Founders of UWA took a bold step in making a University in a new land, so at the start of another century we are being challenged to expand the vision for a 'knowledge era'.

Exciting stuff … and maybe even more provocative/stirring/unsettling/rewarding than what is on at the movies!

Professor Deryck Schreuder
Vice-Chancellor and President
vc@acs.uwa.edu.au

New chair for an accomplished chairman

New UWA Chancellor Dr Ken Michael AM should slip easily into the big chair at the head of the Senate table.

He has chaired so many boards, headed so many commissions and presided over so many committees, that leading the Senate seems a task tailor made for him.

Dr Michael (pictured), formerly Pro Chancellor of the University, was elected to the Senate in 1998. He has been appointed Chancellor for a four-year term, replacing Clinical Professor Alex Cohen AO, who is retiring after almost three years as Chancellor.

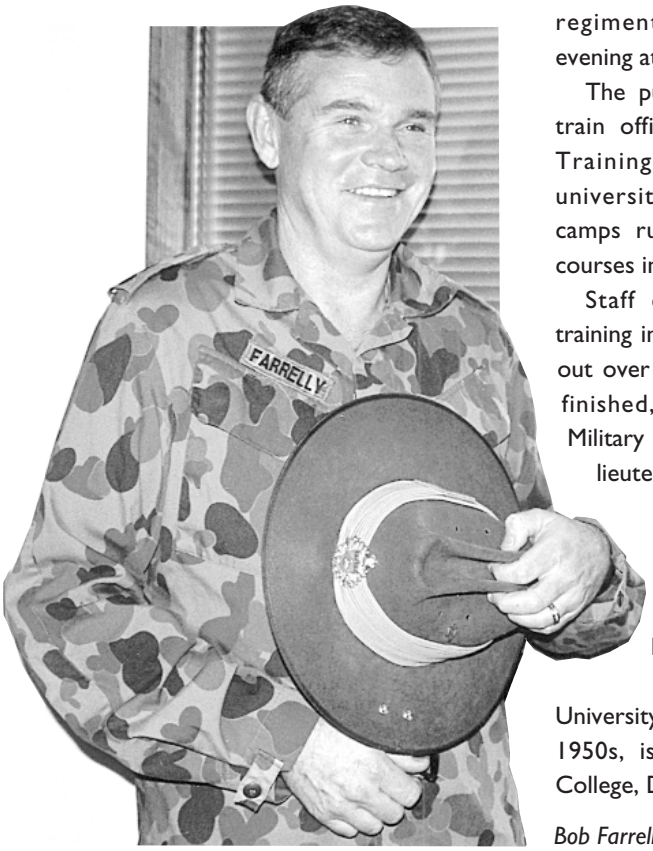
Described by the Vice-Chancellor, Professor Deryck Schreuder, as "a tireless and respected contributor to many aspects of business and community", Dr Michael is currently WA's Independent Gas Pipeline Access Regulator; Chair of the Board of Trustees of the WA Museum; Chair, Waste Management Taskforce 2020; member of both the East Perth Redevelopment Authority Board and the Cancer Foundation Council of WA; and Managing Director of his own company, Ken Michael Consulting (engineering and management).

A graduate of UWA with first class honours in civil engineering, Dr Michael completed his PhD at the University of London.

He is the former Commissioner of Main Roads and former Public Service Commissioner.

"The University is privileged to have Dr Michael as Chancellor," Professor Schreuder said. "And I place on record my thanks on behalf of the University community for the efforts of Clinical Professor Cohen."

From HR to CO: another leadership role



Bob Farrelly … changing hats.

Bob Farrelly is the new Commanding Officer of the University Regiment.

Given his 'stripes' in March, Mr Farrelly, the Director of Human Resources, now commands an Army reserve regiment of about 150 troops.

About 50 staff cadets are students from the four public universities in WA and the balance is university staff. The regiment parades every Tuesday evening at Fremantle's artillery barracks.

The purpose of the regiment is to train officers for the Army reserve. Training is fitted in around the university calendar with two-week camps run in June/July and six-week courses in the summer break.

Staff cadets can complete their training in 18 months, but can spread it out over three years. When they have finished, they all go to Duntroon Military College to graduate as second lieutenants in the Army reserve.

Mr Farrelly said reservists were working in Bouganville and some had worked with the peace-keeping forces in East Timor.

The West Australian University Regiment, established in the 1950s, is part of the Royal Military College, Duntroon.

Endeavours become achievements

Two UWA scientists have been honoured with election to the Australian Academy of Science.

Dr Patrick Holt, from the TVW Telethon Institute for Child Health Research, and Professor Paul McCormick, from the Department of Mechanical and Materials Engineering, were among 16 new Fellows elected Australia-wide.

Election to the Academy recognises a career that has significantly advanced the world's store of scientific knowledge.

Dr Holt, Deputy Director and Head of the Division of Cell Biology at the Institute, has specialised in research into immunity in the airways, with respect to asthma and allergic reactions.

Professor McCormick, Professor of Materials Engineering, is recognised for his work in the field of materials science, industrial innovation and solar energy studies.

A passionate launch for diversity project

Staff and students at UWA speak, between them, 61 different languages.

This diversity alone is enough to warrant Equity's new Workforce Diversity Strategy, launched last month.

The project, *Achieving Excellence Through Diversity*, focuses on three priority areas: indigenous Australians, people with disabilities and people from culturally and linguistically diverse backgrounds.

Launching the project in the Lawrence Wilson Art Gallery before more than 100 people involved in reconciliation and diversity, the Vice-Chancellor, Professor Deryck Schreuder, said that universities should be exemplars for the rest of the community.

"Our university tries to be a model employer and this launch is a significant step in workplace relations," Professor Schreuder said.

In her traditional welcome, Nyoongah elder Judy Jackson said it was great to know "this spiritual and sacred site is being looked after by the University and that our children and grandchildren can come here to further their education."

Malcolm Fialho, Equity's diversity project officer, had been working on the strategy for more than a year.

"*Achieving Excellence through Diversity* is a very passionate document," he said. "Early in the 1990s, I was trying to produce something similar in another workplace and I was told: 'Let's be positive, let's not mention race'!"

Professor Schreuder warmly applauded the Equity Office's innovation and said that the diversity strategy dovetailed with the University's internationalisation policy.

"A strategy like this can only be sustained by good leadership. We, the executives of this university, have the opportunity to become champions of diversity and inclusivity," he said.

After Mark McGowan MLA, Parliamentary Secretary to the Premier, launched the project and publication, Maria Osman, Manager Equity, said that, in the past two months, they had already reached targets set as part of the three year plan.

Malcolm Fialho enjoyed didgeridoo player James Kearing's performance.

GSM's Military Masters

Six officers from Singapore's Armed Forces Training Institute graduated with the degree of Master of Business Administration from the UWA Graduate School of Management this month – and their commanding officer came to Perth to witness the ceremony.

Brigadier General Stephen Wong, himself a Bachelor of Business Administration (University of Singapore), encourages his officers to achieve high levels of education.

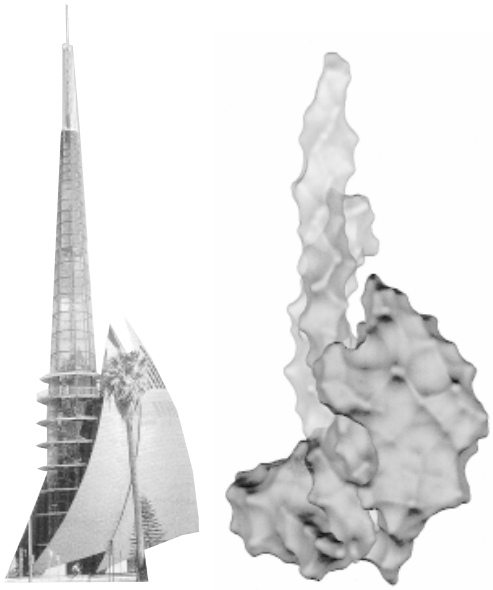
SAFTI has a teaching staff of about 300 officers and they also engage the services of UWA, Harvard, US Naval Postgraduate School and Utah State University, to educate Army, Navy and Air Force officers.

About 3000 officers graduates annually from the Institute's schools.

Brigadier General Stephen Wong is proud of his six graduating officers.

Dr Matthew Wilce mounting a crystal in preparation for an X-ray diffraction experiment.

The γ/ε structure is shown as a molecular surface and modelled in Barrack Street



Discovering the molecules of life

Dr Matthew Wilce and Dr Andrew Rogers are responsible for the first macromolecular structure to be published by UWA.

Their contribution was published in the November 2000 edition of the prestigious journal *Nature Structural Biology*, back-to-back with a paper on the bovine form of the molecule by Nobel Prize winner John Walker and co-workers.

It is also the first macromolecular structure to be published from any source in WA.

And, to the astonishment of Dr Wilce and Dr Rodgers, the achievement has been commemorated by the construction of a large model of γ/ε which can be viewed at the Barrack Street jetty in Perth City! (Everybody else recognises the structure as the Bell Tower, but its similarity is so marked that Dr Wilce and Dr Rogers are enjoying their perceived notoriety.)

When hydrogen ions flow through the membrane portion of the molecule, they actually cause it to rotate – like a turbine in a hydro-electric power station. And, as in the turbine analogy, this rotation is converted into the enzymatic formation of a storable energy – adenosine triphosphate, or "ATP".

The crucial molecular link between the rotating membrane portion of the molecule and the enzymatic portion has, up till now, only been speculated upon. Doctors Wilce and Rodgers have solved the molecular structure of the γ/ε sub-units of the protein. This structure rotates with the membrane portion of ATP synthase causing the static enzymatic portion of the molecule to produce ATP.

The asymmetric shape of γ/ε underlies its mode of action. Like the motion of a cam-shaft, γ/ε pushes against each enzymatic sub-unit with each rotation. The resulting change of shape of the enzyme sub-units causes the release of newly formed ATP.

This molecular machine is one of the few examples of rotation in a biological system, and has been an area of much research and speculation over the years.

When Dr Wilce arrived at UWA in 1998, UWA established its first macromolecular X-ray crystallography laboratory. With an ARC funded state-of-the-art X-ray detector and cryogenic cooling apparatus, he has expanded the capabilities of the already prolific Crystallography Centre to macromolecular studies. Dr Rogers joined his structural biology laboratory in 1999.

Structural biology is the study of the chemical structure of biological macromolecules, such as protein or DNA, to atomic resolution.

When the precise shape of the molecule is known, it can shed enormous light on how that molecule carries out its function in the cell. The tools being used to determine the structures of such molecules include X-ray crystallography, nuclear magnetic resonance (NMR) spectroscopy and electron diffraction.

X-ray crystallography is the most powerful of these techniques and, since its use in the 50s in determining the structure of double stranded DNA, has provided by far the greatest amount of molecular structural data.

A new era in oral health

Dentistry at UWA is at the brink of a renaissance.

Even the terminology is changing. The phrase oral health reflects a shift from a focus on fixing teeth to one on complete oral health care. Students are now trained in all areas of health associated with the mouth, including gums and jaws.

The new $38 million Oral Health Centre of Western Australia (OHCWA) is being built on a prime corner site at the Queen Elizabeth Medical Centre. It will house a new and ground-breaking collaboration between UWA, the State Health Department, Technical and Further Education (TAFE) and Curtin University.

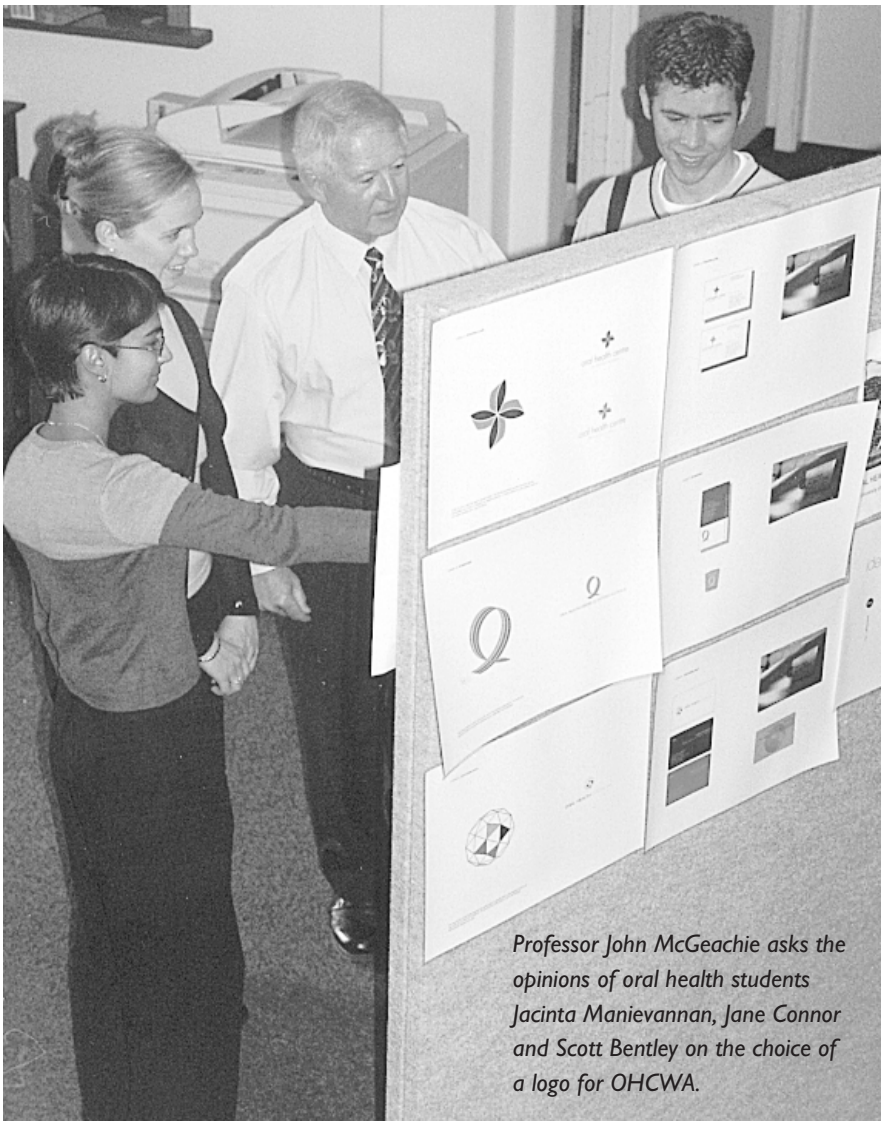
The new centre is the catalyst for a range of innovative programs in oral health.

For the first time, the University will formally become a health care provider, with a large proportion of the general patients and all the special services patients from the current Dental Hospital in the city being treated at OHCWA from next January.

A State Government initiative is behind the establishment of a new Centre for Rural and Remote Oral Health (CRROH) on campus, with senior lecturer Dr Marc Tennant as director.

As the Head of the School of Dentistry, Professor John McGeachie, says, it is an extraordinary year for all of them.

New centre, new curriculum, new collaborations



Professor John McGeachie asks the opinions of oral health students Jacinta Manievannan, Jane Connor and Scott Bentley on the choice of a logo for OHCWA.

" We will have a teaching centre, a service delivery centre and an a research centre for oral health all under one roof. We will be the first in the country to provide training for dentists, oral hygienists, dental technicians and dental assistants as well as specialist postgraduate training all in the one centre," Professor McGeachie said.

The School of Dentistry's Senior Administrative Officer, Mark Stickells, explained the $6 million 'purchaser/ provider' contract with the Health Department for the centre to provide oral health care for public patients, underpinned the restructuring.

Not many people realise that dental students treat patients at the Perth Dental Hospital.

"Unlike medical students, who don't really treat patients until they have graduated, our students are working with patients from third year.

"The new curriculum of the BDSc degree course (currently in its 4th year of operation) will introduce a major change in the 5th year. Students will practise as clinical dentists, with limited supervision, in public clinics. Some final year students will work in the new Centre and others will go out to metropolitan and regional dental clinics administered by Community Dental Services. It will be a pre-graduation intern year, where their clinical experience can be consolidated," Professor McGeachie said.

"The $38 million going into the new centre is made up of $19 million from the State Health Department, $15 million from UWA and $4 million in kind (the land) from UWA," Mr Stickells said.

The biggest advantage of the move from the old Wellington Street dental school premises to the new centre is the proximity of the students to the main campus. Adjacent to the new centre, a new $4 million medical and dental library is being built, which will further enhance the move.

"Another big advantage is the integration of all oral health training. For the first time, oral hygienists from Curtin University and dental assistants and dental technicians from TAFE will be trained at the centre, along with our students — an excellent opportunity to integrate clinical training," he said.

Preventive dental care for the bush

Dentists in WA are working now on strategies to prevent a shortage of practitioners in regional areas within 20 years.

Dr Marc Tennant, senior lecturer in the School of Dentistry, is the Director of a new University research centre focusing on the significant current and expected future unmet needs for oral health care in rural and remote parts of Western Australia.

The Centre for Rural and Remote Oral Health (CRROH) has been established as a result of a State Government initiative last year which targeted oral health in these areas, with particular reference to Aboriginal oral health. CRROH is currently housed in the Centre for Surgical Skills (*ctec*) on campus.

Dr Tennant says it is widely acknowledged that, over the next 20 years, the increase in population will outstrip the increase in the number of dentists in Australia.

This will result in a shortage of practitioners and, assuming similar trends to medicine, the greatest effects will be felt in 'the bush.'

"So this centre is, if you like, a pre-emptive strike," Dr Tennant said.

CRROH will employ about six people to research the issues and develop strategies to address them. Issues such as workforce trends, oral health needs and assessment of access to care are some of the key issues to be investigated.

The centre, the only one of its kind in Australia, is a collaboration between UWA and the State Health Department, within the Faculty of Medicine and Dentistry. It is expected to foster wider national collaborations.

CRROH will provide a network of support for practitioners and oral health workers through education programs.

"In collaboration with Aboriginal groups, we will undertake research, development and implementation of oral health programs tailored to the needs of Aboriginal people in these areas," Dr Tennant said.

"We will also be training Aboriginal health workers and supporting dental auxiliaries (hygienists, therapists and assistants) in the bush. We aim to provide similar support for clinical practices in 'the bush' as the Faculty does for other health centres," he said.

Dr Marc Tennant's new office outlook is a constant reminder of 'the bush' that CRROH services.

New clinic to aid hearing professionals

Professor Lou Landau, Peta Monley (audiologist and clinical co-ordinator), Hon. Bob Kuchera (Minister for Health) and Dr Rob Patuzzi (course co-ordinator) at the opening of the joint venture audiological clinic in Yokine.

An Australia-wide shortage of audiologists should be remedied by a new joint venture between the University and a small private West Australian company.

The Department of Physiology has entered a partnership with iHear, an audiology clinic in Yokine, as a cost-effective response to the need for intensive clinical training for its Masters students.

Students from the Master of Clinical Audiology program, co-ordinated by Physiology's Dr Robert Patuzzi, will work with the clinic's clients at the D7+ Medical Centre in Yokine. The clinic has facilities for adults and children, and has already hosted a three- day screening program to help the students gain experience in dealing with clients.

The State Health Department has contributed $30,000 to the running of the course, as a response to the Australia-wide shortage for audiologists. This agreement was brokered by Deputy Vice-Chancellor Professor Alan Robson, Professor Lou Landau (Dean of the Faculty of Medicine and Dentistry), Professor Don Robertson (Physiology) and Dr Bryant Stokes (Chief Medical Officer of the Health Department).

The launch of the joint venture was attended by the Honourable Bob Kuchera MLA (Minister for Health) and Peter Howes (from the Federal Government's Australian Hearing). Dr Patuzzi said Australian Hearing had contributed greatly to the formation and running of the audiology course.

"The Master's course has just begun its second year, and has received generous and broad support from the community, including support from the private audiological company Western Hearing Services and from Kosmic Sound and Lighting of Osborne Park. The students' research projects are supported by the hearing aid company Widex," Dr Patuzzi said.

"Much of the teaching in the second year of the course, which is co-ordinated by Helen Goulios of Australian Hearing, is provided by professionals in the field of audiology and its allied professions, who donate their time and energy to training our next generation of audiologists," he said.

"Thank you to all the generous contributors to this course, and to the 100 or so people who attended the launch of this important new venture."

The course will also be offering a study option in second semester for second year medical students in objective electrophysiological measurement.

Queensland includes inclusivity

The Dean of Education, Professor Roger Slee, has joined the Queensland State Government as Deputy Director-General of Education.

Professor Slee (pictured below), who initiated UWA's Centre for Inclusive Education and was the founding editor of the International Journal of Inclusive Education, will continue to champion the rights of all to an education.

"My commitment to inclusive education is partly why Education Queensland want me, to help with their curriculum reform," Professor Slee said.

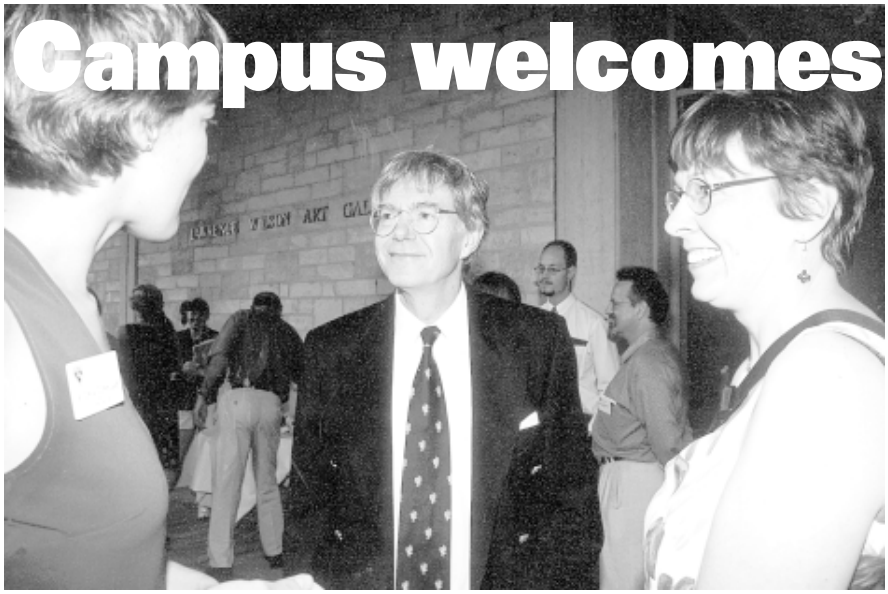
Roger Slee — on his way to Queensland.

Queensland's Education Minister, Anna Bligh, said it was "a coup to have someone of Roger's calibre join us."

Professor Slee said the work of Education Queensland "stood out from the international pack."

Dr Marnie O'Neill will become acting Dean of Education and Associate Professor Keith Punch the acting Deputy Dean.

Campus welcomes parents



The Vice-Chancellor introduces student counsellor Avonia Donnellan (left) to Lucy Bourne, whose daughter Bianca Brescianini is a first year student in the Arts Faculty.

About 800 parents had a taste of their children's other lives at the University's annual Parents Welcome.

Following an introduction at Winthrop Hall, parents of first year students attended Faculty talks and tours of the campus led by volunteer staff members. It was a valuable time for parents to ask questions in an informal atmosphere.

The afternoon's activities ended with a reception at the Lawrence Wilson Art Gallery.

Organiser Ian Lilburne reported that the welcome went smoothly with lots of positive feedback from the parents.

He said the Vice-Chancellor's and Guild President's speeches in Winthrop Hall were popular with the parents.

"One phrase in particular which resonated for the guests was the VC's description of UWA as a *campus without gates*," he said.

"I think most parents would have gone away feeling much more comfortable about their children's immediate futures at UWA."

"Many parents also became aware of the Access UWA Program and were surprised to learn that they themselves were eligible to enrol at UWA," he said.

Where there's a Will, there's a UWA

Cheryl Mariner comes with thirty years of fundraising experience gained in Europe.

She worked with a not-for-profit agency dealing with refugees seeking sanctuary in the UK, the development of community centres in Eastern Europe and the safe distribution of humanitarian aid to places of fire, famine, flood, war, pestilence, plague, disaster and disease.

She will be pleased to speak to people who have made a Bequest to UWA in their Wills or are thinking of doing so. An information booklet on Bequests has been published and copies are available from Ms Mariner.

"Private philanthropy and bequest income is essential to ensure support for key aspects of the University's future growth and development," Ms Mariner said.

"One third of the UWA budget is funded from the Federal Government, with another 15% derived from investment. The remainder (more than half) is earned by the University through the aggressive pursuit of competitive government grants, collaboration with the public and private sectors and from international funding sources.

Sir John Winthrop Hackett's original endowment has enabled the University to serve the community and its students well, providing thousands of Western Australians with an education to enhance their future. In seeking to continue this tradition, the University has appointed Cheryl Mariner to the Office of Development to handle bequests.

"Making a Will is not just for the retiree, or the elderly. As none of us know what tomorrow will bring, a Will is essential to ensure adequate provision for family (if applicable) and to ensure that assets are distributed in an appropriate manner designated by the bequester. A Will need not be complicated or expensive and it will bring peace of mind and the satisfaction of knowing that affairs are in order," she said.

"It is a great privilege to be able to thank donors for their gifts even though it may be many years before the University receives them. UWA staff members are important ambassadors to the wider community and if anyone knows of a person who has included UWA in a Will or is thinking of doing so, I would be very pleased to hear from you."

Cheryl Mariner can be contacted on her direct line, 9380 1688. All communications with her are strictly confidential.

Obituary

History research cut short

Professor Frank Broeze

A seminar on his current research work in the last week of March turned out to be Professor Frank Broeze's farewell.

Professor Broeze, who spent more than 30 years in the History Department, died on April 4 after a prolonged illness.

His research interests were broad ranging, from American to Middle Eastern history, but he was internationally recognised for his work in maritime history.

He was President of the (international) Maritime History Association and was had also been honoured as a member of the Australian Academy of the Humanities.

Associate Professor Tony Barker, his long-time friend and colleague, was one of four people chosen to speak at his funeral. Here is an edited version of his moving eulogy.

"Frank was my closest friend for the 28 years I've been at UWA. Nobody ever had a more appropriate name than 'Frank' because that's what he was—outspoken, direct, honest and open.

"You could say 'what you saw with Frank was what you got'. I prefer to say 'what you heard with Frank was what you got'. Nothing in the Arts Building at UWA will ever be the same without *The Voice:* that resonant voice that announced his arrival each day with cheerful 'Good Mornings' at every open door in the corridor that led to his room.

"Most of those rooms were occupied by the administrative staff of the faculty rather than fellow academics. I feel pretty sure that to all of them Frank was a wonderful, friendly human being with not a hint of pride in the Professorial status he had won so deservedly. I suspect that very many of them were unaware of just how much he'd achieved as an internationally acclaimed historian, and as member of innumerable boards and committees in local and international communities.

"But all of them knew a great deal about his teaching.

"Frank always took his tutorials in his room and always with the door open. The result was a deplorable drop in the efficiency of the Faculty administration—but a corridor full of administrators and secretaries who, over time, effectively majored in history —because Frank taught an incredible range of courses.

"He spent the first half of his 31 years in the department teaching mainly the maritime history he was hired to teach and which was the foundation of his great reputation as a historian. But in the second half he taught anything he could lay his hands on.

"His achievements would have been remarkable in any circumstances. What made them almost incredible of course were the three major brain operations since 1987 and the ever more serious traumas of the past year. And it was his heroic behaviour in this most recent period that almost defies belief.

"A select 25 of us—mainly staff and graduate students in the history department — had the moving experience of attending his last seminar exactly one week before his death. For weeks—as he went in and out of hospital—Frank's determination to give this seminar was a reminder of how much history and his work as a historian meant to him.

"In one sense it was a terribly sad occasion because by then he was a shrivelled figure in a wheelchair, talking about a book on the Pacific Ocean he wasn't going to write. But though his appearance was a shock to those who hadn't seen him recently, his performance was inspirational: he spoke for an hour, with his usual command of sweeping issues, with his usual humorous anecdotes and—thank goodness—still in his distinctive booming voice. It was an intensely moving, uniquely appropriate way for him to say goodbye.

"For myself and my colleagues, and for hundreds of students, past and present, our sense of loss is enormous."

Practice run not too alarming

Staff and students are guided away from the Anatomy and Human Biology building by emergency consultant Lyndall Milenkovic.

Emergency evacuation drills interrupted work in 18 buildings earlier this month.

But the inconvenience was well worth it, as the Safety and Health Office (SHO) found some of the campus' Emergency Warning Indication Systems not working properly.

In collaboration with Critical Incident Management Systems (CIMS), SHO trained 92 emergency wardens among the staff and evacuated half the buildings on campus.

"We're very pleased with how the exercises went and with the training of the volunteer staff," said Mike Rafferty, manager of the SHO.

"We wanted to ensure that everybody had a good evacuation plan and we are happy with the results. It's all about co-ordinating a response and working together," Mr Rafferty said.

CIMS, a Sydney-based company, involved with the safety procedures and training at the Sydney Olympics, also provides services to the three other public universities in WA.

"They have helped us to review and revamp our campus emergency plan," Mr Rafferty said. "We are serious about protecting our assets, both human and physical," he said.

Another 18 buildings will practise their evacuation procedures in August when CIMS returns to campus.

The last real emergency evacuation followed a small explosion in the Chemistry building late last year.

UWA news

EDITOR/FEATURE STORY WRITER
Lindy Brophy
Tel.: 9380 2436 Fax: 9380 1192
Email: lindy.brophy@uwa.edu.au

Designed and set by
Steve Barwick
Email: steve@publishing.uwa.edu.au

Printed by
Uniprint
The University of Western Australia
UWA news online
http://www.publishing.uwa.edu.au/uwanews/

EDITOR-IN-CHIEF/PUBLIC AFFAIRS
Colin Campbell-Fraser
Tel.: 9380 2889 Fax: 9380 1020
Email: cam@acs.uwa.edu.au

Telstra rewards determination

Four of the seven winners of a national Telstra scholarship are engineering students from UWA.

Telstra's Equal Employment Opportunity (EEO) Scholarships are awarded every year to attract and retain the best employees and to ensure the greatest diversity within the Telstra workforce.

Each of the winners receives a $10,000 scholarship.

From UWA, the winners are:

Amra Filipovic, who came from Bosnia with her family five years ago, is the top performer among the winners. She is studying engineering and science and is looking for a career where she can involve both technology and people. She, like most of the other winners, is active in the engineering mentor scheme.

Ha Dang has been in Australia for eight years and, as well as language barriers, she has also faced cultural hurdles to study engineering. She has combined her engineering degree with studies in biomedical science.

Ivy (HueyYi) Lee faced similar language and cultural barriers and overcame them to study engineering and science. Another mentor for younger students, she hopes to be able to influence more women to enter the engineering profession.

Mario Mikulic fled Bosnia where he had begun his tertiary education and had to restart his degree in Croatia. He was then forced to leave Croatia, leaving behind all his belongings, including his books and study notes. Arriving in Australia, he took a TAFE course to improve his English speaking and writing before trying, for the third time, to complete an engineering degree. He has almost completed it and hopes to work in the tele-communications industry.

Reflections...

Carol Newton-Smith
Business Librarian
at The University of Western Australia.

As I was waiting in Winthrop Hall to receive my degree earlier this month, I reflected on how fortunate my generation and my children have been. I thought of the sacrifices my parents made so that we could have an education. My siblings and I between us have twelve University degrees and many of our children have degrees. Our parents have none, yet this is not through our parents' lack of ability.

My father, Jack McLean, was a true Sandgroper. Born in 1919, a wheatbelt farmer's son, he was a foundation student at the Salt River School just south of Borden. One of his fellow students was Professor Reg Moir who retired from UWA not long ago.

Jack's academic ability showed early: he was selected by a travelling school inspector to attend Albany High School on a scholarship. In his final year there he was Captain of the School, and also of Cricket, Athletics and Swimming. Although his dream was to study history, he could not afford to go to University. It was during the Depression and he had to get a job. He worked at the general store in Gnowangerup and in his spare time he played football.

Fortunately he was again spotted, this time by Claremont Football Club. He came up to Perth and while playing football for the Tigers (including the 1938 premiership) he completed teacher training at Claremont Teacher's College.

Once qualified he taught at Waroona to earn some money to go to University. However, in 1939 war broke out. He joined the R.A.A.F.

By contrast, my mother, Elfrida Ahlborn, was born in Darjeeling in the foothills of the Himalayas. Her Swedish father was an engineer on the tea plantations who died when she was only three.

The Masons agreed to pay for her education and at the age of six she was sent off to boarding school. Her first school was run by some American missionaries. By the time she had finished her primary schooling her academic ability was recognised. She was transferred to a school that complied with the English system of education where there was a better chance for scholarships. She got honours in all subjects in the University of Cambridge Higher School Certificate and was accepted to study medicine at Edinburgh University.

This was 1939. War broke out making travel to England impossible. She joined the Red Cross.

I wish there was a way of recognising the people who provided the building blocks for our opportunities

It was during my father's overseas war service that my parents met in Calcutta. They were married within months.

During the war my father had a distinguished career, receiving the Air Force Cross for his role in the evacuation of Malta and a Distinguished Flying Cross and Distinguished Service Order for his missions in Burma. By the time the war was over my parents had began a family and earning a living was a priority over study.

A career in the services was the obvious choice, and my father transferred to the R.A.A.F. where the opportunities at that time were greater. He rose to the rank of Group Captain. He died when he was only 45, from war injuries. He was never in a position to fulfil his dream to study history at UWA.

My mother had her hands full raising five children. She made incredible sacrifices to enable us to go to University rather than go herself. She worked selling roof paint. She was a receptionist in an old people's home. She was a Church secretary. She encouraged us and we all had our first degrees before we left home.

I realise that my generation has been very fortunate in being able to fulfil our academic dreams, and we are now helping our children to achieve theirs. I wish there was a way of recognising the people who provided the building blocks for our opportunities, so that they would know we do not take them for granted.

While I was waiting onstage for my degree presentation my mother was waiting offstage in the audience. She was so excited for me that I had completed my Masters. Mum, how I wish that this degree was yours.

the last word...

UWA news info LIFT-OUT
CAMPUS DIARY • RESEARCH GRANTS AND CONTRACTS • CLASSIFIED ADS • NOTICES • REDUNDANT EQUIPMENT
23 April 2001 Volume 20 Number 4

Compiled by Joanna Thompson
Telephone: 9380 3029
Facsimile: 9380 1162
Email: joanna.thompson@uwa.edu.au

Research Grants & Contracts

UWA SMALL RESEARCH GRANTS

Dr H. Millar, Plant Science: 'Proteomic analysis of changes in mitochondrial function induced by oxidative stress in the model plant arabidopsis thaliana' — $17,500 (2001).

An incorrect research grant was published under Dr Millar's name and photograph in our last issue. That grant was for Dr Pieter Poot, also of Plant Sciences.

Dr D. Van Mill, Political Science: 'The philosophy and politics of Thomas Hobbes: interpretations' — $8989 (2001).

Dr S. Leong (*left*), School of Music: 'Metacognitive-diagnostics and computer-assisted learning in aural development: How effective are they?' — $6989 (2001).

Prof M. Sivapalan, Centre for Water Research: 'Hydrological and biogeochemical controls on catchment nutrient response' — $14,731 (2001).

A/Prof A. Dyskin, Civil and Resource Engineering and **Dr H. B. Muhlhaus** (external): 'Continuum modelling of discontinuous materials' — $18,928 (2001).

Dr E. Sahouryeh, Civil and Resource Engineering: 'Thermal spalling of brittle materials' — $8453 (2001).

Dr C. Macnish, Computer Science and Software Engineering: 'Evolutionary programming techniques for analysing student code' — $8539 (2001).

Dr C. McDonald, Computer Science and Software Engineering: 'Debugging regular parallel process topologies' — $10,264 (2001).

Dr J. Antoszewski, Electrical and Electronic Engineering: 'Performance of HgCdTe IR detectors with reduced volume fabricated using molecular beam epitaxy technology' — $11,703 (2000).

Dr R. Chandrasekhar, Australian Research Centre for Medical Engineering: 'Extraction of circumscribed mass lesions from mammograms using texture analysis' — $7124 (2001).

Dr J. Henry and **Dr J. Livingstone**, Electrical and Electronic Engineering: 'Innovative thin film amorphous silicon PIN diodes as position sensitive detectors and their potential in robotic systems' — $11,173 (2001).

Dr C. Musca, Electrical and Electronic Engineering: 'Investigation of thermally activated degradation mechanisms in HgCdTe infrared photodiodes' — $10,328 (2001).

RAINE FOUNDATION/NHMRC

Pregnancy allergy link

What a mother eats during her pregnancy could have an effect on the immune responses of her child, and could also contribute to an increase in allergic diseases such as asthma.

Department of Paediatrics researcher Dr Susan Prescott is exploring this, focusing on whether fish oil supplements during pregnancy can alter immune responses to house dust mite and other allergens at birth and in infancy.

"It's clear that multiple environmental and lifestyle factors are contributing towards allergic diseases and it could be that an imbalance in diet is one of them," Dr Prescott said.

She said that allergies and asthma were on the increase in highly urbanised Western societies.

"One of the most significant dietary changes associated with increasing urbanisation is our increased intake of pro-inflammatory omega-six fatty acids – which may promote allergic immune responses – and a decline in omega-three fatty acids, which inhibit immune responses are important for healthy pregnancy."

The three-year study is funded by the Raine Foundation and the NHMRC.

A/Prof B. Nener, Electrical and Electronic Engineering: 'Ohmic contacts to semiconducting Gallium nitride' — $12,038 (2001).

Dr E. Smith, Electrical and Electronic Engineering: 'Enhanced optical coherence tomography via automatic dispersion compensation' — $11,789 (2001).

Mr J. Tuthill and **A/Prof V. Sreeram**, Electrical and Electronic Engineering: 'Digital compensation in IQ modulators' — $17,796 (2001).

Dr A. Zvyagin, Electrical and Electronic Engineering: 'Real time Doppler optical coherence tomography' — $19,406 (2001).

Dr J. Gao, Mathematics and Statistics: 'Nonparametric and semiparametric methods in stochastic nonlinear dynamical systems' — $10,791 (2001).

Dr V. Stefanov, Mathematics and Statistics: 'Bioinformatics and statistical genetics: probability calculations on small pedigrees' — $8010 (2001).

Dr B. Turlach, Mathematics and Statistics: 'Shape constrained nonparametric smoothing using higher order splines' — $6589 (2001).

Dr K. Miller, Mechanical and Materials Engineering: 'Mechanical properties of brain tissue under various loading conditions' — $18,928 (2001).

Prof M. Norton, Mechanical and Materials Engineering: 'A pilot project to monitor mechanical seal conditions in centrifugal pumps using acoustic emission' — $9564 (2001).

Mr M. Cassidy, Offshore Foundation Systems: 'Reliability of a jack-up unit on calcareous sand, with parallel physical modelling' — $11,247 (2001).

Dr E. Fakas, Oil and Gas Engineering: 'Wind loading on offshore structures' — $8156 (2001).

Dr J. Liu, Oil and Gas Engineering: 'Investigation of stress dependent corrosive transport of reactive fluids in fractured rock masses' — $8843 (2001).

Dr G. Cole and **Prof B. Ronalds**, Oil and Gas Engineering: 'The development of an improved fatigue reliability model for offshore structures' — $11,789 (2001).

Dr K. Thiagarajan, Oil and Gas Engineering: 'Hydrodynamic slamming loads on subsea modules during lifting and lowering operations' — $11,119 (2001).

Dr J.-Z. Xia, Oil and Gas Engineering: 'Simulation of ship motions — coupled heave, pitch and roll' — $11,708 (2001).

Dr L. Abraham, Biochemistry: 'Role of the developmental regulator Pax 5 in hepatic development' — $14,000 (2001).

A/Prof P. Attwood and **A/Prof G. Yeoh** (*right*), Biochemistry: 'Regulation of DNA replication and cellular proliferation by a nuclear liver histidine kinase and investigation of its molecular properties' — $6000 (2001).

A/Prof M. Guppy and **Dr M. Bogoyevitch**, Biochemistry: 'Interacting roles of ATP, oxygen, the mitochondria and MAPK in cellular responses to hypoxia, anoxia and reperfusion' — $12,000 (2001).

Continued on back page of LIFTOUT ▶

CAMPUS Diary

23 April - 7 May

Monday 23 April

ASTHMA AND ALLERGY RESEARCH INSTITUTE SEMINAR
'Smouldering arteries', Associate Professor Joe Hung. 12.30pm, Joske Seminar Room, Medicine, Fourth Floor, G Block, SCGH.

Tuesday 24 April

LAWRENCE WILSON ART GALLERY
'Chris Crouch on Conceptual Art.' Chris lectures at the School of Visual Arts, Edith Cowan University. In the context of the gallery's current exhibition, *do it*, Chris takes a look at the emergence of conceptual art in Australia and overseas. 1pm, LWAG.

PERTH MEDIEVAL AND RENAISSANCE GROUP TALK
'The Confucian Renaissance under the Manchus', Professor Leslie Marchant, University of Notre Dame. 1pm, Postgraduate Lounge, Hackett Hall.

SOIL SCIENCE AND PLANT NUTRITION SEMINAR
'Soil carbon issues in the greenhouse CRC', Dr Richard Harper, CALM. 4pm, Agriculture Lecture Theatre.

HISTORY SEMINAR
'New right think-tanks and their enemies: Australia in the 1980s', Tim Dymond. 4.30pm, Postgraduate Lounge, Hackett Hall.

Thursday 26 April

CENTRE FOR CONTEMPORARY ASIA SEMINAR
'Walls in the head: Overcoming mental borders between India and Pakistan', Dr Sanjay Chaturvedi, Director of the Centre for Geopolitics, Punjab University, India. 1pm, OLS Resource Room 1.237, new Social Sciences extension.

FREE LUNCHTIME CONCERT
'Highly Strung' — the shimmering patterns of *Shaker Loops*, John Adams's minimalist masterpiece. Performed by The WAIM String Orchestra with Alan Bonds as director. 1.10pm, Winthrop Hall.

ZOOLOGY SEMINAR
'Choice and consequence: An exploration of the influence of feeding on foraging decisions in a parasitoid', Dr Helen Jacob. 4pm, Jennifer Arnold Lecture Theatre.

PHYSIOLOGY RESEARCH SEMINAR
'Calcium independent contractions in airway smooth muscle by p21 activated protein kinase', Dr Peter McFawn, Queens University, Kingston, Canada. 5pm, Physiology Seminar Room.

Friday 27 April

MICROBIOLOGY SEMINAR
'*Helicobacter pylori* controversies', Professor Barry Marshall. 9am, Seminar Room 1.1, First Floor, L Block, QEIIMC.

POLITICAL SCIENCE SEMINAR
'Indian geopolitics: Enduring myths, competing representations', Dr Sanjay Chaturvedi, Director of the Centre for Geopolitics, Punjab University, India. 11am, Political Science Conference Room, top floor, Social Sciences Building, Rm 2.63.

ENGLISH WORK-IN-PROGRESS SEMINAR
'Representations of Ireland in contemporary Irish fiction', Mary Breen, University College, Cork. 1pm, Common Room G14, Arts Building.

BIOCHEMISTRY SEMINAR
'Aging — a cellular energy and inracellular signaling crisis', Dr Geof Grant, University of North Texas Health Science Center. 1pm, Simmonds Lecture Theatre.

CIVIL AND RESOURCE ENGINEERING SEMINAR
'The scaled boundary finite-element method: Outperforming the finite element method', Dr Andrew Deeks. 3.45pm, Room E151, First Floor, Civil Engineering Building.

ARCHAEOLOGY SEMINAR
'The rise and fall of the Great Zombabwe Empire', Warren Fish, Consultant Archaeologist. 4 to 5pm, Simmonds Lecture Theatre.

Monday 30 April

AUSTRALIAN FEDERATION FOR UNIVERSITY WOMEN (WA) INC. 2001 BURSARY LUNCH
Participants include Dr Jenny Mills, AFUW National Fellowships Convener and Dr Julie Summers, editor of Australian Research Grants Register, Vicki Mason, 2000 Bursary Winner and Sally-Anne Rowlands, 1999 Bursary Winner. 5.30 for 6pm, St Catherine's College. RSVP by email to afuwwa@cygnus.uwa.edu.au or phone 9386 3570.

Tuesday 1 May

SOIL SCIENCE AND PLANT NUTRITION SEMINAR
'Application of molecular markers in plant improvement', Dr Mehmet Cakir. 4pm, Agriculture Lecture Theatre.

HISTORY SEMINAR
'Women and the informal economy and the development of capitalism in England c. 1650 to 1850: Or, did women get the credit?' Professor Beverly Lemire, University of New Brunswick. 4.30pm, Postgraduate Lounge, Hackett Hall.

Wednesday 2 May

ARCME SEMINAR
'Transcranial magnetic stimulation mapping of human motor cortex', Dr Gary Thickbroom, Australian Neuromuscular Research Institute. 5.15pm, Billings Room, Electrical and Electronic Engineering Building.

Thursday 3 May

CENTRE FOR STUDIES IN AUSTRALIAN LITERATURE SEMINAR
'The fruit of the garden: Food and the Bible in Elizabeth Jolley', Janet Meszaros. 1pm, Postgraduate Student Lounge.

FREE LUNCHTIME CONCERT
'Fired Up' — a dynamic concert of contemporary percussion works from around the world, climaxing with Michael Askill's *Fire* music from the Sydney Olympic Games opening ceremony. Performed by the Defying Gravity percussion ensemble with Tim White as director. 1.10pm, Octagon Theatre.

Friday 4 May

MICROBIOLOGY SEMINAR
'Low dose orally administered type I interferon therapy: Towards a mechanism of action', Erika Bosio. 9am, Seminar Room 1.1, First Floor, L Block, QEIIMC.

ASIAN STUDIES SEMINAR
'From plan to market: Population policy in contemporary China', Gary Sigley. 1pm, G.25 Seminar Room, Ground Floor, Social Sciences Building.

ENGLISH WORK-IN-PROGRESS SEMINAR
'Life writing', Professor Susanna Egan, University of British Columbia. 1pm, Common Room G14, Arts Building.

CIVIL AND RESOURCE ENGINEERING SEMINAR
'Geophysical investigations in the Gulf of Thailand', Andrew House. 3.45pm, Room E151, First Floor, Civil Engineering Building.

THE PHILOSOPHY SOCIETY MEETING
'Russell and Wittgenstein', Stewart Candlish. 4.15pm, Arts Seminar Room 1.33.

Friday 4 to Saturday 5 May

INSTITUTE OF ADVANCED STUDIES/GENDER AND WORK CULTURE SEMINAR
(incorporating the 2001 Grace Vaughan Memorial Lecture)
Gender issues within the workplace remain a critical issue in contemporary societies. This workshop will explore problems and developments in the context of history and gender relations at work in nineteenth- and twentieth-century Britain and Australia. It will reflect on equal opportunity issues both within and outside the academic workplace and involve participants from business and the public services. For further information or to register, call Terri-ann White on ext. 2114.

Saturday 5 May

UNIVERSITY MUSIC SOCIETY

'Orchestral Jewels' — Beethoven's epic Fifth Symphony forms the dramatic core of this programme which also includes the Australian premiere of Belgian composer Frederique van Rossum's *Symphonie Concertante*. Performed by The WAIM Symphony Orchestra with Nicolette Fraillon as conductor, Darryl Poulsen on horn and Graeme Gilling on piano. 8pm, Winthrop Hall.

Monday 7 May

UWA EXTENSION PRESENTS GEORGE NEGUS

'The world from Italy: Football, food and politics.' The Australian television journalist will uncover a side to Italy and Italians that cannot be found in guidebooks or travel memoirs. George will speak not only of his experiences of living in San Giovanni Valdarno, a Tuscan town south of Florence, but also how this experience acted as a trigger for him to ponder much broader international issues such a globalisation, IT and the emerging new political and social ideology of 'The Third Way'. 7.30 to 9pm, Hadley Hall, Methodist Ladies College, Claremont. Fee: $22; conc. $17. Bookings essential on ext. 2433 or through the web site: http://www.extension.uwa.edu.au/.

It's time for a new name

Do you have a connection to Kingswood or St Columba Colleges?

Here is your opportunity to have your say on the new name for the combined colleges.

A year ago, the once separate University colleges of St Columba and Kingswood were brought together under a single council, head and administration.

The college council now wants to choose a new name. The process will address college colours, logo and crest.

"The existing names of St Columba and Kingswood will still be retained as campus names to acknowledge the extensive history and heritage of both colleges," said Alec O'Connell, Head of College.

As part of the process, the council invites feedback from any alumni or member of the University staff with possible names or comments on the process.

Please forward suggested names (including a short rationale) to:
Rev Geoff Blyth,
Chair of Council,
c/o St Columba-Kingswood College,
230 Hampden Road,
Crawley WA 6009.

Are you troubled with anxiety, or would like to quit smoking?

The Robin Winkler Clinic, in the Department of Psychology, is hosting free information sessions for anxiety problems and on quitting smoking. Each session will highlight possible treatment options available.

ANXIETY PROBLEMS SESSION
Thursday, April 26 from 2 to 3pm

QUITTING SMOKING
Friday, April 27 from 2 to 3pm.

Please call 9380 2644 for information and to reserve a place.

UWA*news*
Copy deadlines
editorial and advertising

DEADLINE DATE	PUBLICATION
Wednesday	*Monday*
April 25	May 7
May 9	May 21
May 23	June 4
June 6	June 18
June 20	July 2

TABLE OLIVE WORKSHOP 2001

Sunday 27 May

9am to 4pm

Cost: $145

Olives are now on the trees. If you want to learn more about table olive processing then the place to be is at UWA's Faculty of Agriculture, where Professor Stan Kailis will present a day workshop. Professor Kailis will show the best varieties of olive to plant, how and when to pick olives and the processing methods to get the best results. The workshop will appeal to a wide range of persons from those that love olives to the more serious growers. During the workshop, hands-on activities will include olive tasting, olive evaluation, olive processing and marinating, and making tapenade. Lunch will include dishes based on Mediterranean and Middle East cuisine. All notes, olives and materials are provided, however you may wish to bring your own olives for processing or tasting.

Contact Professor Stan Kailis, Plant Sciences Group, Faculty of Agriculture, tel: 9380 1108; email: skailis@agric.uwa.edu.au.

AUSTRALIAN RED CROSS

FASHION AUCTION AND JUMBLE SALE

The Bindaring Unit of Australian Red Cross will stage its annual Fashion Auction and Jumble Sale on

Saturday 12 May

at the

Wool Pavilion
Claremont Showgrounds

Perth's fashion elite have cleaned out their wardrobes and will be selling their pre-loved designer label clothes including brands such as Armani, Versace, Laurel, Moschino and Lisa Ho. A wide range of clothing items will be available to select from including ladies' business suits, casual wear, evening gowns, children's clothing and men's apparel.

The Fashion Auction features new items of designer clothing kindly donated by exclusive Perth boutiques.

Doors open at 9am with the Auction, hosted by 6WF presenter Verity James, taking place at 11am. Entry is free and all proceeds go to vital Red Cross community services.

Research Grants & Contracts

Dr J. Wilce, Biochemistry: 'Structural studies of mRNA-binding proteins involved in the regulation of gene expression' — $12,000 (2001).

Dr R. Lake, Medicine: 'Characterisation of the mesothelin promoter' — $8000 (2001).

Dr A. Oakley, Pharmacology: 'Structure, function, and evolution of insect glutathione S-transferases' — $14,000 (2001).

Dr A. Rodgers, Pharmacology: 'Structure/functions studies on the y- and e-subunits of ATP synthase' — $10,000 (2001).

Dr S. Maloney, Physiology: 'The influence of scrotal and testicular thermoreceptors on thermoregulation during normothermia and fever' — $6000 (2001).

A/Prof A. Dharmarajan, Anatomy and Human Biology: 'Tumour necrosis factor-alpha signal transduction in corpus luteum apoptosis' — $10,000 (2001).

Dr T. Bell, Botany: 'Nutrient acquisition by plants: mycorrhizal symbioses and other root specialisations in Australian heathlands' — $12,000 (2001).

Dr P. Grierson, Botany: 'Phosphatase activity in response to nitrogen fertilization in karri (Eucalyptus diversicolour) forests in southwestern Australia' — $6000 (2001).

Dr G. Kendrick, Botany: 'Integrating seagrass recruitment and growth at the shoot scale with temporal and spatial dynamics of seagrass in marine landscapes' — $10,000 (2001).

Dr P. Smith and **Prof C. Atkins**, Botany: 'Factors affecting sink strength for nitrogen in lupin seeds' — $7000 (2001).

A/Prof D. Walker, Botany: 'Ecophysiological basis for seagrass establishment from seedlings in an oligotrophic temperate ecosystem' — $10,000 (2001).

Dr T. Quickenden, (*right*) Chemistry: 'A spectroscopic search for the molecule O2.H2O at low level temperatures' — $9534 (2001).

Dr B. Skelton, Chemistry: 'New motifs in crystal architecture' — $18,928 (2001).

Dr M. Baker, Chemistry: 'Catalysts for green chemistry' — $15,028 (2001).

Dr A. Mckinley, Chemistry: 'Metal-carbon clusters' — $16,189 (2001).

Dr D. Tilbrook, Chemistry: 'Preparation of a suite of putative inhibitors of enzymes peculiar to fungi' — $9089 (2001).

Dr J. Delaney, (*right*) Geography: 'Using GIS to identify thresholds of bush encroachment' — $9000 (2001).

Prof. J. Dodson, Geography: 'Vegetation and environmental response to salinity, fire and global change in the Pliocene of southwest Australia' — $10,000 (2001).

Dr A. Kennedy, Geography: 'Does disturbance promote biodiversity? Testing the intermediate disturbance hypothesis using a keystone herbivore' — $16,000 (2001).

A/Prof M. Dentith, Geology and Geophysics: 'Palaeoseismic studies in WA: Implications for earthquake hazard assessment' — $15,726 (2001).

Mr D. Evans, Geology and Geophysics: 'Timing the breakup of earth's first supercontinent' — $13,250 (2001).

Dr A. George, Geology and Geophysics: 'Platform-basin correlations in Devonian reef complexes using fish and conodont biostratigraphy: a pilot study' — $9613 (2001).

A/Prof D. Haig, Geology and Geophysics: 'Bathymetric signatures in mud facies of a permian interior sea' — $9636 (2001).

Dr S. Johnson, Geology and Geophysics: 'Tanzania and Madagascar: ancient spouses or newly married cratons?' — $10,231 (2001).

Dr B. Krapez, Geology and Geophysics: 'SHRIMP U-Pb zircon age-calibration of sequence-stratigraphic intervals that constrain Palaeoproterozoic collision between the Pilbara and Yilgarn Cratons of Western Australia' — $8522 (2001).

Prof. C. Powell and **Mr H. Zheng**, Geology and Geophysics: 'Uplift of the Tibetan Plateau — timing and its effects on late cenozoic environments' — $12,928 (2001).

Dr K. Sircombe, Geology and Geophysics: 'Is a round zircon an old zircon? Enhancing detrital zircon geochronology provenance interpretations with advanced digital image analysis' — $11,768 (2001).

Classifieds

WANTED TO RENT

HOUSE WANTED BY CANADIAN ACADEMIC and family visiting UWA for a period of 5 months from 20 July until Xmas 2001. Would prefer to rent a house close to UWA with 3 bedrooms and also fully furnished. Non smokers. Email idadour@cyllene.uwa.edu.au or phone 2003 or 0417 997 249.

FOR SALE

JAGUAR XJ6 Sovereign 1985, Series 3, auto, climate control, all elec. trip computer, sun roof, extras, immaculate condition throughout, always garaged. $9000. Call John on 9418 2335.

RESEARCH GRANTS & CONTRACTS

will feature in each issue of

UWA*news*

Redundant Equipment for Sale

ITEM	PRICE	AGE	COND.	NAME	EXT.
Large fish tank, 150cm long, 75cm wide 60cm high (approx. 650 litre capacity) on pine-effect storage cabinet with castors plus large amount of accessories, pumps etc	Offers	11	2-3	Jenny	2681

Bids should be accepted by Monday 7 May with departments to have first option

Departments are reminded that all University equipment available for sale must be advertised in the **UWA*news***. 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 3618/2547 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.