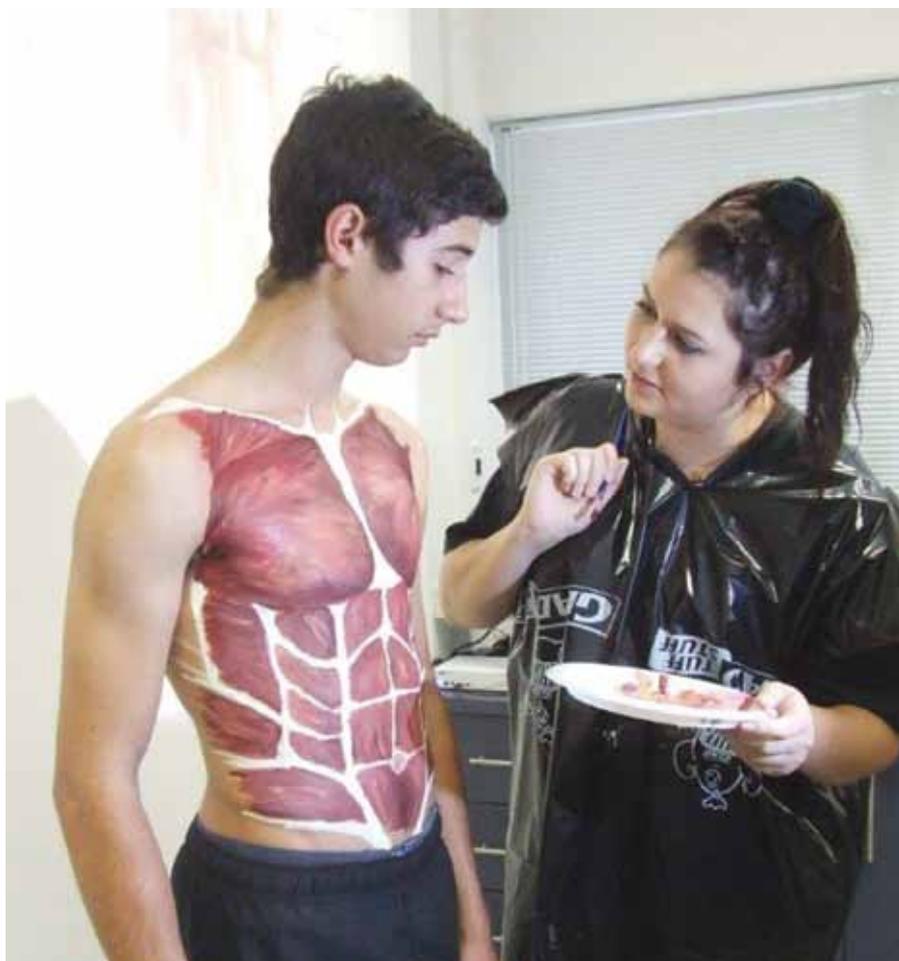




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# MeDeFacts

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PHYSIOTHERAPY STUDENT LEZAAN BRINK CHECKS THE ARTWORK ON HER BROTHER HENRY, A GOLDFIELDS SENIOR SCHOOL STUDENT. THEY WERE HAVING A PRACTICE RUN FOR A FUN-FILLED DAY ON OCTOBER 11, WHEN THE FACULTY WILL HOLD A SPECIAL PROGRAM IN KALGOORLIE FOR THE "UWA GIVES BACK" PROJECT, WHICH IS THE REGIONAL CELEBRATION OF THE UWA CENTENARY. SEE PAGE 2.  
(PHOTO BY JANI PIETERSE)

## Saving lives

**A training module** for critical emergency medicine techniques, including the restoration of the airways, has proven so successful that it will be rolled out nationally and internationally.

The module was developed by Animal Care Services at the Biomedical Research Facility in conjunction with Royal Perth Hospital.

"We have a very powerful model where the emergency registrars learn emergency airway access and training," Dr Lawson, Director of Animal Care Services, said.

In addition, some soldiers, before deployment, are taught critical battlefield first aid techniques at the facility. "They have saved the lives of our soldiers in the field," Dr Lawson said.

The facility teaches them how to attend to field injuries which, unless treated quickly, are fatal. For example, using a properly anaesthetised animal model, they are taught how to pack a wound and keep fluids up, thereby rescuing the animal.

"The same theory applies to road accident victims," Dr Lawson said, adding that the facility also conducts first aid courses for other groups.

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## Hearing restored after decades

**Patients who have been deaf** for up to 30 years in one ear have regained their hearing after starting a trial using cochlear implantation for single sided deafness and tinnitus, performed by Faculty otolaryngologists.

Professor Gunesh Rajan, Professor and Head of Otolaryngology, Head and Neck

Surgery in the School of Surgery, said the hearing had been restored within six to nine months of having the implant and the patients continued to improve.

"The dogma in the textbooks was that this was not possible and that they would never achieve useful hearing," he said.

Moreover, tinnitus associated with the hearing loss had been suppressed.

Professor Rajan said people could be completely deaf in one ear from sudden hearing loss, which was probably from a viral infection.

"These people have two big blows," he said. "They are close to deaf and they have severe tinnitus in the same ear."

The team is the first in the Asia Pacific to perform cochlear implants for unilateral deafness. A trial they started in 2008 has

revealed how effective the implants are for treating tinnitus as well.

The implant needs to remain switched on for the tinnitus to remain suppressed.

Patients have reported that if they switch off their implant, the tinnitus returns within half an hour to three hours.

The trial has also provided insights into the plasticity of hearing.

"Because we can switch on and off the implant, we can look inside the brain with the implant on and the implant off, using special imaging studies," Professor Rajan said.

"We are looking at what the changes are and what the implant does and whether the brain changes over time, which is the neuroplasticity of the brain.

"This is opening up a very interesting field."

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Previous editions of MeDeFacts can be viewed online at

[www.meddent.uwa.edu.au](http://www.meddent.uwa.edu.au).

Go to "News and events" link on the left.



FIELD HOSPITAL STRETCHER. PHOTOS BY GERALDINE PIETERSE

The Medical School Appeal Fund, launched in September 1955, was generously supported by many community groups, including Rotary Clubs that helped set up "citizen committees" from Carnarvon to Esperance.

More than £570,000 - or the modern equivalent of about \$30 per head from every member of the population - was raised.

Before the establishment of the Medical School, aspiring doctors had to undertake part of their course in the Eastern States.

"It is appropriate that the Faculty of Medicine version of this event is in the Rural Clinical School headquarters in Kalgoorlie because we are the part of the Medical School which exists in the bush," said Professor Riley, who is also Head of the School of Primary, Aboriginal and Rural Health Care.

"And the program will be fun."

## A vote of thanks from the Faculty to you

A mini medical school with workshops and a display of intriguing medical antiques will be among many attractions of the Faculty of Medicine, Dentistry and Health Sciences' celebration of "UWA Gives Back" in the bush.

It will be run by the Rural Clinical School of WA (RCSWA) in Kalgoorlie and will be held at the Australian Mining Hall of Fame, Goldfields Highway, on October 11 from 10am to 4pm.

An event showcasing the community projects undertaken by RCSWA students across the State and another highlighting RCSWA educational innovations and research will be staged.

There will be a display by two organisations that have consistently given to the community - St John's ambulance, which is bringing along its own skeleton from the cupboard, and the Royal Flying Doctor Service.

The Western Desert Kidney Health Project will present animations and other displays and there will be an X-ray exhibit.

The mini medical school, or "Be a medical student for a day", will be modelled on the Faculty's rural student recruitment program and will enable school students to interact with medical students and try their hand at some simple procedures, such as suturing and plastering.

The program will also include an afternoon of short public presentations on a variety of medical topics and an evening cocktail event for invited guests.

Winthrop Professor Geoff Riley, Head of the RCSWA, said the aim of the day was to thank the country community for all it had given to UWA.

"The events are happening in the bush because the early development of the University, but most particularly of the Medical School, came very much from rural people and their generosity," he said.

The Medical School, which started in 1957, was made possible by funds from the WA public and the State Government.



DENTAL MOULDS AND EQUIPMENT



FEMALE URINALS



ANAESTHETIST'S PACK



PILL PRESS

## Guest Editorial

# What's happening in the School of Surgery?

By Winthrop Professor Jeff Hamdorf, Head of the School of Surgery and Director of CTEC

## Master of Surgery

Senior academics are frequently concerned about succession planning.

Academic surgery has sought to address this by developing the Master of Surgery program. The UWA Master of Surgery (MS) course was established by the School of Surgery in 2010 and is conducted in partnership with CTEC (Clinical Training and Evaluation Centre). Since this time, the course has attracted a strong cohort of local and interstate doctors. Fourteen doctors, both junior and senior, are currently enrolled in the program, with one doctor having submitted his research thesis for examination.

The UWA Master of Surgery Course is unique compared to other Master of Surgery programs in Australian universities in that practical skills development training is included. In addition to undertaking academic competencies, students participate in CTEC's Core Skills surgical skills workshops. The course aims to develop technical skills in surgical procedures and provide students with the skills to initiate and progress research effectively and independently. Students expand their knowledge and learn how to design, conduct, analyse and evaluate surgical research. Throughout the course, students gain a deeper understanding of the importance of basing their clinical practice on evidence based medicine.

Students are currently enrolled in the disciplines of surgical education, orthopaedics, otolaryngology, urology, breast cancer, gynaecological surgery, cardiothoracic surgery and colorectal cancer.

One of the features of the Masters as a higher research degree is the ability for it to be taken part-time. By comparison, a surgical trainee undertaking a Doctor of Philosophy (PhD) needs to commit to a three-year full-time supervised course of study. The Master of Surgery can be taken part-time or full-time and we have found that some candidates prefer to take it as a combination. This gives surgical trainees and junior surgeons the opportunity to experience focused research without the need for major sacrifice.

There are elements of coursework, including biostatistics and clinical epidemiology, which are undertaken through the School of Population Health; these offer students a solid grounding in research methodology. Another compulsory core unit is the participation in CTEC skills courses in the student's area of the specialty interest. Following the CTEC course, the students are required to complete a reflective dissertation describing a procedure they've undertaken in the laboratory. The students are also assessed on their ability to critically evaluate the literature and present on selected articles.

Yet this is a research intensive degree and the majority of the focus should be on a novel research endeavour. Master of Surgery students have presented their work nationally and internationally and there are several publications which have already found their way into the peer-reviewed literature.

In the School of Surgery, we feel confident that the future of surgical academia is in safe hands through its Masters program.

## Translational cancer research in molecular oncology

Winthrop Professor Barry Iacopetta is the School of Surgery Graduate Research Coordinator and oversees the activities of higher degree by research students. Barry also established the translational cancer research laboratory in the School of Surgery in 1991. He brought to this scientific endeavour expertise from postdoctoral positions in Switzerland, along with an extensive network of collaborators from his time overseas.

Collegiality has continued to be a defining feature, including extensive collaborations with surgeons, junior doctors, pathologists, medical geneticists and oncologists from local, national and international institutes. The laboratory has published more than 140 papers in the past 20 years and 15 students have successfully completed postgraduate degrees.



WINTHROP PROFESSOR JEFF HAMDORF

The three major projects currently being performed in the QEII-based laboratory are:

1. Population-based screening for a familial bowel cancer syndrome (Lynch syndrome) in the West Australian population;
2. Development and validation of molecular-based gene tests used to select cancer patients for treatment with targeted therapies (mutations in KRAS, BRAF, EGFR, IDH1 etc.)
3. Investigation of the role of tumour-infiltrating lymphocytes in the response of melanoma to targeted treatments against mutant BRAF.

The importance of this work is shown through a number of areas:

- Five of the publications from the unit have earned recognition as citation classics.
- The group regularly publishes in high impact oncology journals.
- The research findings have resulted in a significant change in patient care through the introduction of laboratory-based population screening for Lynch syndrome in WA, routine molecular tests for diagnosis and management of cancer patients in WA and the introduction of quality control testing for KRAS mutation at the national level.

Since 2005, the group has identified more than 40 previously unrecognised Lynch syndrome families in WA, allowing increased surveillance of affected family members. This will result in the detection of cancers at an early and potentially curable stage in mutation carriers.

Translational cancer research has the potential to change outcomes at a population level.

## A “fussy” facility - applying biomedical research to human medicine

**Life-saving emergency techniques,** medications and therapies are all being developed with the help of a Faculty service widely used by researchers, clinicians and even the army (see story page 1).

Animal Care Services is headed by Dr Malcolm Lawson, who said its key role was to further biomedical research using animals as models.

The research is used to advance knowledge of many diseases, including diabetes, muscular dystrophies, and cancers such as mesothelioma, prostate cancer and melanoma, as well as the development of vaccines, medications and surgical techniques.

There is also a lot of work being done in the facilities on how to boost the immune system to fight disease, particularly cancers, the transmission of, and resistance to, viruses, and the role of genetics and why some people are more susceptible to certain diseases.

“The whole business here is to provide a controlled environment,” Dr Lawson said. “There is constant temperature and lighting and defined food and health status.” There are also strict quarantine and microbiological standards.

“We make sure the animals are fit for purpose and properly used on the projects, that the science is conducted properly and well and that it is worthwhile doing,” Dr Lawson said.

“Everything that is done here is with approval from the UWA Animal Ethics Committee.”

The facility came under the aegis of the Faculty of Medicine, Dentistry and Health Sciences at the beginning of last year but is open to use by all Faculties and also to external organisations on a fee-for-service basis, subject to UWA ethics approval.

The staff of about 40 includes veterinarians, quality control managers, and the animal carers who check the animals twice a day and ensure they are well looked after.

The main centre, the Biomedical Research Facility, is off campus and houses a wide range of animals, including mammals and birds, but there are satellite facilities at some tertiary hospitals and on the UWA campus, which houses fish, amphibians and reptiles.

“In addition to mammalian species, we are also looking towards zebra fish as a powerful model for studying gene function and the importance of various genes in development,” Dr Lawson said.

“You can do a lot of them very quickly, it doesn’t take years and years, and you can get preliminary information very quickly. You can then decide to explore further down to the cellular level or take it into more advanced, more sophisticated work on controlled mammalian development in systems like immune, muscle or hormonal axis.”

Another role of the facility is productivity, researching ways to increase and improve egg production in birds such as quails, pheasants, pigeons, ducks and emus.

“The big question for agriculture generally and for international partners is, ‘How are we going to feed the world’,” Dr Lawson said. “Asian nations are looking at fowl as a protein source.”

The facility has many international collaborations for its productivity and medical research.

“Winthrop Professor Ian Puddey (Faculty Dean) is very supportive of looking at developing strong relations and consistencies and standards between facilities like ours with partners in China, the United States, Japan and others,” Dr Lawson said.

Another role of the facility is to road test the use of medical devices and teach surgical techniques.

There is also product development, with treatments such as tea-tree oil and food additives for diet control in diabetes and Alzheimer’s disease.

Dr Lawson said audits of the facilities were common. “We are inspected all the time,” he said. The most recent major audit was by the National Health and Medical Research Council, which measured the facility’s performance in July.

“We are at the applied end of biomedical research,” Dr Lawson said. “That is why the facility is so fussy. A lot of the work we do is for application into human medicine.”

- By Cathy Saunders



LEFT: DR MALCOLM LAWSON, DIRECTOR OF ANIMAL CARE SERVICES



# The passing of Professor David Sinclair and the closing of a chapter

*David Cecil Sinclair, born 28 August 1915, died 30 April, 2013*

Two succinct stories perhaps indicate the measure of the late Professor David Sinclair, who was the Foundation Professor of Anatomy in the Faculty's Medical School and who passed away in April at the age of 97. He was the last surviving medical Foundation Professor.

One tale is from his daughter Dr Anne Hillman, who recently retired as a research fellow and occupational therapy academic at the University of Sydney, and reflects his scrupulousness and ethical behaviour.

He had been involved in the Phoney War in France where he was in charge of a field hospital. Eventually it was strafed and they had to urgently move patients and equipment to the coast as part of the Dunkirk evacuation.

All the way he lugged a huge medical tome in his backpack for the single reason that he had borrowed it from a colleague and was determined to return it.

"That is a bit typical of Dad," Dr Hillman says. "He was a very conscientious person and careful of other people's things. He was extremely proper in the way he did things."

The second vignette is from Dr Cameron Bracks, retired South-Western otolaryngologist, who was one of Professor Sinclair's early students at UWA. It gives a hint of the professor's sense of humour and kind-heartedness.



PROFESSOR DAVID SINCLAIR AND HIS RETIREMENT COMPANION BRUCE IN ABOYNE

Dr Bracks relates that a fellow medical student got into a fracas with some law students and was suspended from lectures for three months.

"Apparently David Sinclair said to him, 'My eyesight is not too good so if you sat down the back of the class, I don't think I'd see you there,'" Dr Bracks says.

The professor's time at the Medical School and the opportunity to start a new medical course were definitely major highlights of his 97 years, according to his daughter.

"He was very interested in medical education," she says.

"One of the things he valued was the professors who had come from all over the place. They were very different sorts of people but they would sit down and have a meeting about the curriculum or what

they were going to do and they would have enormous arguments sometimes. But they would hammer it all out and then they would be round at each other's places for dinner and be the best of friends."

He also enjoyed the down-to earth attitude of the Aussies.

"When we arrived, he was bowled over by the informality, having come from Oxford, and he just loved the fact the students automatically called him 'David'," Dr Hillman says.

The students also loved him and his brilliant wit.

On a Friday afternoon after his passing, on May 10, some graduates from the early cohorts in medicine gathered at the

*continued on page 6*



LEFT: DR RICHARD LUGG (LEFT) AND DR RALPH TEN SELDAM, BOTH SONS OF LATE FOUNDATION PROFESSORS, AT A GATHERING AT THE UNIVERSITY CLUB TO COMMEMORATE THE LATE PROFESSOR DAVID SINCLAIR. RIGHT: PROFESSOR DAVID SINCLAIR (RIGHT) WITH HIS WIFE ELIZABETH AND A FRIEND DURING THE WAR.



# David Sinclair

*continued from page 5*

University Club to commemorate him with an informal farewell.

Dr Bracks, who was in the second cohort of medical students to go through the anatomy department, says they received excellent teaching from the young professor, who introduced some new educational techniques.

"And he was a nice guy," he says. "He was unassuming and he wasn't pompous."

Born and bred in Scotland, Professor Sinclair did not come to Perth until the late 1950s at the age of 41.

His father, the first doctor in the family, was a public health medical officer in Scotland and used to take him on his rounds.

Having completed his medical degree with flying colours at St Andrews University, to which he won a scholarship at age 16, the young Sinclair was keen to become a surgeon but a feral cat bite precluded that because it resulted in a flexion deformity of his right index finger.

Then war broke out and after his stint in France, he was involved in chemical warfare research on Gruinard Island, studying anthrax.

He was then posted by the British army to a secret unit in Innisfail in Queensland that was conducting research for the Australian army, looking at mustard gas and protection against it.

The first thing he found was that when the Australian troops sweated, toxic aniline leached from the lining of their protective suits. "They started keeling over, just from their suits," Dr Hillman says.

But the most important part of his war was the fact that it led to his meeting his future wife, Grace Elizabeth Simondson, later

known by her middle name, who was in the Australian Women's Army Service and was in charge of the unit's research laboratory. By the end of the war, they were married.

They returned to England, where he was appointed as a lecturer in anatomy at Oxford University and continued his well-known research into cutaneous sensation, on which he wrote one of his dozen or so books. Later, at UWA, he was awarded a DSc for his work on the subject.

Most of his books or book chapters related to anatomy and to medical education. He contributed to "Cunningham's Textbook of Anatomy" over several editions. Other books included his first autobiography titled "Not a Proper Doctor", and "Outside the Dissecting Room", a compilation of humorous columns that were published in *The Lancet*.

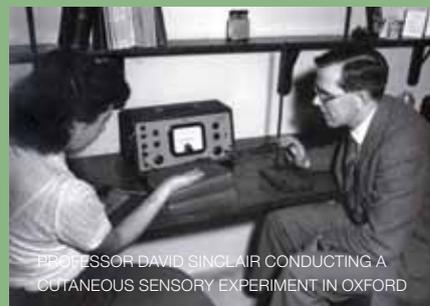
Dr Hillman says he loved writing and was very good at it. Indeed, former students have commented that his writing was concise and clear and he could write in a



PROFESSOR DAVID SINCLAIR WAS AWARDED A DSC BY UWA



PROFESSOR DAVID SINCLAIR WITH HIS WIFE ELIZABETH AND CHILDREN COLIN AND ANNE



PROFESSOR DAVID SINCLAIR CONDUCTING A CUTANEOUS SENSORY EXPERIMENT IN OXFORD

couple of sentences what others would take several paragraphs to convey.

He gained an MA in 1948 from Oxford, having completed an MD at St Andrews the previous year. It was in Oxford and on sabbatical in the US that he developed his interest in medical education and in 1957 he and his wife and two children, Colin and Anne, relocated to Perth so he could take up his new role as Foundation Professor.

His anatomy department began in primitive demountable buildings which were formerly the headquarters of the US Catalina flying boat squadron based in Crawley. Eventually a new wing was built.

The professor set up a system whereby people could donate their bodies so that the medical students could learn anatomy through dissection.

"He was very respectful about people donating their bodies," Dr Hillman says, adding that he held an annual afternoon tea to thank the relatives of donors.

Professor Sinclair donated more than \$11,000 towards a UWA scholarship in anatomy, which is named the Robert A. Milne Bachelor of Medical Science Scholarship in Honour of Professor David Sinclair. The university also awards the David Sinclair Prize in Anatomy and Human Biology.

In 1964 he was appointed UWA Dean of Medicine but in 1965, because his asthma had progressively worsened in Perth, the family moved to Aberdeen where he was Regius Professor of Anatomy at Aberdeen University. Two years after his wife passed away in 1973, he returned to Perth to take up the post of Director of Postgraduate Medical Education at Sir Charles Gairdner Hospital.

His asthma flared up again and in 1980 he retired to Scotland, where his son and grandchildren were living.

The professor had many interests and was an accomplished photographer, pianist and jigsaw maker.

"The other big thing in Dad's life was my mother," Dr Hillman says. "He was devoted to her. Mum was completely out of the box for him." She passed away at the age of 59.

"He was a fantastic Dad," Dr Hillman says. "He was always available and never demanded silence because he was working or locked himself away from us."

- By Cathy Saunders

# Rule number one: have a good idea (or two)

Winthrop Professor John Newnham says he has been lucky enough to have had two good ideas in his life.

Those two concepts have led to ground-breaking research and findings that have become internationally famous.

In June his life-long hard work was rewarded when he received the honour of being made a Member of the Order of Australia for significant service to medicine in the field of obstetrics.

Professor Newnham, Deputy Dean of the Medical School and Professor of Obstetrics and Gynaecology (Maternal Fetal Medicine) at The University of WA, says his first major idea was to instigate the Raine cohort study, now in its 24th year. It began with the recruitment at King Edward Memorial Hospital (KEMH) in 1989 of 2900 pregnant women who were assessed throughout pregnancy and has since followed their children across all aspects of their health.

"The Raine study has put WA at the forefront internationally in that field," Professor Newnham says.

That field is now called DOHaD (Developmental Origins of Health and Disease) and the professor was one of the founding members of the International Society for DOHaD in 2001.

The second innovative idea was to apply Australian agricultural expertise to medical sheep research.

As a young doctor and researcher, he worked in a laboratory in Los Angeles that used sheep as a model for human pregnancy.

"It is possible to operate on the fetal sheep without the ewe labouring," Professor Newnham explains. "So much of what we know about the fetus - its physiology - is in fact through fetal sheep.

"But the way they handled them in research labs across the world was not what I had seen as a young boy working as a roustabout in a shearing shed."

So on his return to WA, he started to apply to his research the principles that had been used by Australians for more than 200 years to handle large numbers of sheep very quickly and efficiently, without disturbing them.

"We keep the sheep in a field environment and we do not have them indoors, except for a very short period of time when we need to," he says. "And because the sheep are delivered back out into their paddock environment most of the time, they are happier, their health is better and the outcomes are better."

By 1988, he had published a paper on using ultrasound imaging instead of surgery to

study the fetal sheep. And he invited his US research group - which has since visited annually - to WA. Their Perinatal Sheep Research Collaboration, which recently completed its 23rd year of collaborative research and has been funded continuously by the National Institutes of Health, has grown to be an international team and has published more than 100 papers on pre-term birth.

"We have pretty much put everyone else out of business," Professor Newnham says. "There are very, very few fetal sheep operations running as it has become so expensive overseas and we can do it at a fraction of the price."

His interest in agriculture extends to his leisure time - when he can grab some - and he and his wife have a cattle farm down south.

His other down time is spent with his family, catching up with his three children, and exercising at 6am at the beach.

The professor, who is Head of the School of Women's and Infants' Health and Director of the Women and Infants Research Foundation, based at KEMH, and holds academic positions with other medical institutions in WA and overseas, says he has been driven by three strong factors throughout his life.

"First of all, I am a Western Australian, my ancestors were early settlers here and I have never questioned that my role on earth is to work in Western Australia for Western Australians," he says. "I could never have been recruited anywhere else."

He has spent the past 29 years at KEMH and his stints away total only four-and-a-half years, of which he spent two in Los Angeles doing his Maternal Fetal Medicine subspecialty Fellowship, 18 months in London working at St Bartholomew's Hospital and six months in Africa tending to the Zulu people.

It was the revelation of the world of science and research while in California that became a second driving factor.

"I was very keen to bring it back here so that young obstetricians/gynaecologists of the future and our medical students could have an exposure to science and discovery much earlier in their training than I had," he says. "And that's been achieved. This is a very research-intensive School."

His Californian experience showed him that research was not merely the preserve of older people but was carried out by young people and was exciting, vibrant, competitive and a road to attaining one's full potential.



WINTHROP PROFESSOR JOHN NEWNHAM AT KING EDWARD MEMORIAL HOSPITAL

"In fact, it was just a continuation of being in the football team at school," he says.

"Your team was a competitive unit, in a friendly way, against other competitive units elsewhere in the world, with an annual 'Olympics' at the major scientific meetings at which you performed on the stage."

The third overarching impetus for his work comes from his early days as a young obstetrician, whether in the UK, Africa, or WA, when he gazed at the babies he had just delivered and pondered their lives up until then.

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WINTHROP PROFESSOR JOHN NEWNHAM IN THE SHEEP LABORATORY.

## At the cutting edge of ear research



PROFESSOR GUNESH RAJAN, HEAD OF OTOLARYNGOLOGY, HEAD AND NECK SURGERY IN THE SCHOOL OF SURGERY

Fascinating and important findings on hearing and tumours of the head and neck are emerging from research being carried out by Faculty researchers.

Professor Gunesh Rajan, Professor and Head of Otolaryngology, Head and Neck Surgery in the School of Surgery, said its various research groups, from a range of hospitals, were at the cutting edge of hearing implant and otitis media research and among the leaders in the world.

"We want things to have a public health impact and make health care as accessible to as many people as possible, be it by making it very cheap or by changing how it is done with less equipment and less set-up," he said.

## A little kick to mend a tear

A simple procedure that patches up holes in the eardrum is being taken to its next stage, which involves building a "scaffold" for the repair.

Professor Rajan's group has completed the initial trial of the "smart" ear fix procedure to repair perforated ear drums. It is a five-minute procedure which stimulates the body to close the hole naturally using a bio-engineered growth factor.

"This is only possible because the tympanic membrane has a phenomenal regenerative capacity and can heal itself," Professor Rajan said. "All we are doing is giving it a little kick start."

The pilot program involved 30 patients and ended in mid-March. The preliminary analysis of data is very promising with success rates over 90%, so the next trial is underway which will use the same growth factor and various combinations of other materials to promote healing further.

These materials, which are collagen, polylactate or polymer based, will be used to create a scaffold. This will support the

growth factor as it promotes the growth of the tympanic membrane to cover the hole.

"We don't want the materials to stick around for a long time, just a few weeks, and that's their job done," Professor Rajan said. "Ideally we want them to disintegrate."

The trial, which will be held at Fremantle Hospital and Princess Margaret Hospital (PMH), will involve about 60 patients from age six upwards.

The team was awarded a grant of \$145,000 this year from the Health Department for their research into the tissue-engineered regeneration of the tympanic membrane.

Tympanic membrane perforation, or hole in the eardrum, affects more than 100,000 Australians and more than 80 million people globally. Professor Rajan said many cases in Australia would be undetected, particularly among indigenous people and refugees.

The "smart" ear fix procedure took 3-8 minutes compared with traditional surgical repair that lasted 45 minutes, was simple, did not require a general anaesthetic and the hole closure rates were very high.

"If the hole is closed, the hearing improves," he said. "In these patients usually the inner ear is fine but the sound is not getting transmitted properly because the chain of transmission is distorted by the hole."

The procedure was performed in an outpatient clinic and was ideal for taking into rural and remote areas. "You can go out to the communities and set up a day camp and treat the whole community," Professor Rajan said.

The group plans to use the Ear Bus program to take the procedure to indigenous communities around the state.

## Ungluing glue ear



CLINICAL PROFESSOR HARVEY COATES, OF OTOLARYNGOLOGY, HEAD AND NECK SURGERY IN THE SCHOOL OF SURGERY, CHECKS A PATIENT.

A drug used to break down thick secretions in the lungs of children with cystic fibrosis is being trialled in the treatment of "glue ear" by Faculty researchers.

The hope is that the treatment will reduce the need for repeat antibiotics and surgery to tackle hearing loss.

Middle ear infection, or otitis media, is one

of the commonest childhood complaints and can lead to "glue ear" and, if persistent and resistant to antibiotics, the need for grommets. Thirty per cent of children with grommets need repeat grommet surgery due to re-infection.

Research Assistant Professor Ruth Thornton, of the School of Paediatrics and Child Health and PMH, and her team, which includes Clinical Professor Harvey Coates and Clinical Associate Professor Shyan Vijayasekaran, both of Otolaryngology, Head and Neck Surgery, discovered that sticky nets of DNA conceal the bacteria in the ears of children with recurrent middle-ear infections by creating impenetrable slimy biofilms.

Professor Rajan said a biofilm maintained chronic ear disease.

"It creates a big cushion of material in which the bacteria can hide and immune cells and antibiotics can't get into," he said. "It is like a protected zone created by the bacteria."

The clinical trial at PMH uses the drug Dornase alfa to degrade the biofilm, after which treatment can be given. "The bacteria hiding in the biofilm have nowhere to go so the antibiotics can take effect," Professor Rajan said.

The two-year trial involves 60 children aged under five who will receive Dornase alfa in one ear during grommet surgery while the other ear will be used as a comparison and receive only surgery.

There are also plans to trial the treatment in indigenous children who suffer from high rates of severe chronic middle ear infections.

## Next-gen hearing implants

Next generation hearing implants are giving patients with various kinds of hearing loss a new option.

The so-called hearing preserving cochlear implants ensure any residual frequency hearing is preserved while restoring lost hearing frequencies through the implant.

"There are some chemotherapeutic drugs that are ototoxic and typically cause this pattern where the low frequency hearing is preserved and the high frequency is destroyed, a pattern of hearing loss which is called partial deafness," Professor Rajan said.

"Our Hearing Implant Research Unit (HIRU) has done a lot of firsts for Australia and the Asia Pacific region. We have implanted the next generation of the hearing preserving cochlear implants and were the first to do it in children, cancer survivors who had survived their cancer but lost significant

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# Medical students give back to the community

By Lee Fairhead, WAMSS President

Throughout the years, the WA Medical Students' Society (WAMSS) has been a strong contributor to the community and actively fundraised for many community organisations and charities both within WA and beyond. This year, we are continuing the strong tradition with a number of events to raise money and awareness.

In May, WAMSS' charity arm LookOut ran their annual Scrubber Day in Nedlands on World Downs Syndrome Day and raised more than \$2,500 for the Down Syndrome Association of WA. LookOut has also coordinated an evening for students to cook for families at Ronald McDonald House in Subiaco, where rural families with a child undergoing treatment for cancer or other serious illness at Princess Margaret Hospital can stay.

In semester two, LookOut will hold the annual BedPush, rattling tins in the city to raise funds for a local charity and then teaming up with WAMSS' sports reps during September to collect sports equipment and shoes for distribution across schools and communities in rural and remote WA. To facilitate this, WAMSS is excited to be partnering with Fair Game, an organisation established by UWA medical graduate Dr John van Bockxmeer, to have Fair Game wheelie bins at WAMSS' sporting events so that competitors and spectators can drop off their unused equipment and shoes.

Similarly, WAMSS' global health group Interhealth has been hard at work on many fronts raising funds and awareness for critical issues such as refugee health, access to essential medicines and climate change. In June, the Code Green environment campaign ran a very successful Sustainable Eating Workshop for students and the community and recently a number

of students joined forces around the city planting trees to combat climate change on National Tree Planting Day. Representatives from Interhealth also attended community hearings into the Trans-Pacific Partnerships, arguing for better access to medicines.

Students also continue their contribution in the developing world via the ZONTA birthing kits workshops, putting together more than 1,000 kits throughout the year to be distributed across the world to labouring mothers. Another workshop will be held as part of the ongoing Global Health Short Course (GHSC) series. In its fifth year, the GHSC is an interactive and thought-provoking lecture series held on the UWA campus on five Wednesday evenings in August and September for students and community members.

Interhealth also coordinates an annual volunteer delegation to Kolkata in India to support the Indian Institute for Mother and Child. Similarly, the LINCS (Local International Needs Contribution Scheme) program collects and stores an enormous range of medical supplies and equipment to distribute among students volunteering or doing electives overseas for donation to their local hospital or clinic. This scheme has proved extremely successful to get vital equipment to areas in need and continues to need donations to keep up with demand. Through its partnership with the Hackett Foundation, all donations to LINCS are tax deductible.

WAMSS Red Party charity continues to move along in leaps and bounds, having raised more than \$175,000 for Oxfam's Integrated HIV and AIDS program. This year, Red Party has already held its Quiz Night and Film Night, with the awareness program culminating in Red Week from September 2 and the Red Party on September 6. Red Party is also hoping to provide a brand new Gala event early next year which MeDeFacts readers should keep their eyes out for – it is bound to be an event not to be missed with



FOURTH YEAR MEDICAL STUDENT SAMUEL OGNENIS PLANTS A TREE FOR NATIONAL TREE PLANTING DAY IN AUGUST. HE WAS PART OF THE WAMSS CODE GREEN GROUP WHICH PLANTED TREES TO HELP COMBAT CLIMATE CHANGE.

all proceeds going to Oxfam's projects in South Africa.

Medical students also continue to engage strongly with the AMA's Dr Yes program. They travel all over the state to metropolitan and rural high schools, teaching students about health issues such as drugs and alcohol, sexual health and mental health. This highly successful initiative allows students to teach essential information in a friendly way and they continue to make a positive impact on high school students throughout WA.

As mentioned in our MeDeFacts article in June, WAMSS subcommittee SPAMH (Students Passionate About Mental Health) is heavily involved in community initiatives and supporting wider mental health awareness and decreased stigma.

WAMSS is proud of the enthusiasm and dedication our students show to running successful events for their peers and the community. We look forward to seeing the success of our initiatives for the second half of the year and to growing them and their contribution in the years to come. If you would like more information about them or how you can contribute and support, please contact [president@wamss.org.au](mailto:president@wamss.org.au)



WAMSS PRESIDENT - LEE FAIRHEAD

WAMSS STUDENTS VOLUNTEER TO COOK FOR RESIDENTS AT THE RONALD MCDONALD HOUSE IN PERTH.



## Combined Universities Centre for Rural Health (CUCRH)

### Understanding Yamatji

Thirty-two UWA Master of Nursing Science students gained new knowledge and insight into cultural practices in the Midwest, thanks to a new program called Understanding Yamatji.

The program is an innovative concept

designed by CUCRH's Assistant Professor and educator Wayne Warner. Assistant Professor Warner said that while the program did not intend to replace traditional Cultural Awareness sessions, Understanding Yamatji was the first step

towards creating the bridge between Aboriginal cultures and mainstream society. "Traditional Cultural Awareness sessions focus on legislative and historical aspects of Aboriginal Culture," he said. "They also cover generational trauma. They are important programs but can be very emotional and stressful at times. I believe understanding our culture should begin with something more positive, something that people can take away and put into practice."

Understanding Yamatji explores various underlying concepts of Yamatji culture such as Aboriginal diversity, language, lifestyle, the importance of extended family and practical tips for communicating with Yamatji people, including silence and eye-contact. Assistant Professor Warner said the feedback he received from the Master of Nursing Science students re-affirmed the program's value.

"Some students left the session speaking Yamatji words and with a much better understanding that our diversity is as vast as the many countries that make up the European continent," he said.

"One of them also said that all the things she thought she knew about Aboriginal culture before attending the program really didn't mean anything. She admitted that Understanding Yamatji was a real eye-opener and the program gave her the communication tools to practise cultural understanding."

Understanding Yamatji aimed to prepare the Master of Nursing Science students for their rural placement planned for next month.



MASTER OF NURSING SCIENCE STUDENT COORDINATOR MS JUDY RIGGS WITH ASSISTANT PROFESSOR WAYNE WARNER, BOTH OF CUCRH

### Upskilling Nurses in Aged Care

**As part of its strategy to support**

upskilling and training activities for regional health professionals, CUCRH is running a series of workshops for nursing staff based at Geraldton's Nazareth House aged care facility.

The specialised program will cover a range of topics, including catheterisation and catheter care, nasogastric feeding and tube management, oxygen therapy and suctioning, venepuncture and intravenous therapy, dysphagia, stoma care, and pain management and palliative care.

Senior Research Officer Mrs Michele Holloway, who delivers the workshops on a monthly basis, said the program targeted registered and enrolled nurses.

"All nurses are required to maintain their skills and knowledge regularly, however, in rural and regional communities like ours, travel and accommodation costs as well as lost work time can stand in the way of professional development activities," she said.

"CUCRH aims to overcome these barriers by making training accessible to local nursing staff."

While training was delivered on site at Nazareth House, the program would continue to expand at CUCRH's new simulation education centre, EdSIM, she said. EdSIM's facilities will be used to provide hands-on workshops.

"Once EdSIM becomes fully operational in the next couple of months, workshop participants will be able to use simulation mannequins to practise their skills," Mrs Holloway said. "This will be an important component of the program as many of the topics covered during these workshops are not skills which are routinely practised in the aged care setting."



CUCRH'S SENIOR RESEARCH OFFICER MRS MICHELE HOLLOWAY (LEFT) AND ASSISTANT PROFESSOR KATHRYN FITZGERALD SHOWING AN ATTENDANCE CERTIFICATE OF A PARTICIPANT IN THE NURSE UPSKILLING WORKSHOP IN AGED CARE AT NAZARETH HOUSE.

## Combined Universities Centre for Rural Health (CUCRH)

### Mentor Mates

A partnership aimed at engaging with Aboriginal primary school children and encouraging them to continue their education and gain employment is being supported by CUCRH.

The Mentor Mates program, a local partnership between GCo Electrical, the Aboriginal Workforce Development Centre,



CUCRH RESEARCHER ASSOCIATE PROFESSOR BARBARA NATTABI (LEFT) WITH GERALDTON REGIONAL COMMUNITY EDUCATION CENTRE PROGRAM MANAGER MS CAROLYN PEGLER.

Geraldton Regional Community Education Centre, Apprentice & Traineeship Co, Joblink Midwest, Rangeway Primary School and CUCRH, seeks to find and implement the best possible strategies to enhance educational experiences for children at risk of not completing high school or not joining the workforce later in life.

Mentor Mates enables direct engagement between Rangeway Primary School students and local Aboriginal and non-Aboriginal GCo employees who are willing to share their personal experiences and provide culturally appropriate mentorship and role modelling.

Students also benefit from workshops provided by project partners. The workshops engage participants in interactive exercises designed to boost employability skills and concentrate on topics such as communication, teamwork, problem solving,

self-management and autonomy.

The project aims to ensure that students understand the link between completion of school and future employment opportunities, hence encouraging school retention.

CUCRH researcher Associate Professor Barbara Nattabi said CUCRH would evaluate the program as it developed and assess whether changes to its delivery were required to achieve identified outcomes.

“By weaving evaluation tools throughout the program, we are giving it the best chance for success,” she said. “As opposed to traditional evaluation methods, where assessment occurs at the end of the program and fosters a ‘better luck next time’ mentality, we have offered to help integrate evaluation during the program delivery and encourage required changes as they are identified. Evaluation will not stop the ball from rolling, it will give it pace.”

## Global collaboration

### Chinese nursing students can choose UWA



ASSOCIATE PROFESSOR HELENE METCALFE, COURSE CO-ORDINATOR OF THE MASTER OF NURSING SCIENCE

An articulation agreement (an acceptable course transfer that meets UWA program requirements) which is now underway is enabling Chinese nursing students to undertake the Master of Nursing Science degree in the Faculty.

Students from Shanghai JiaoTong University (SJU) in China, who meet the course entry requirements and have completed 3.5 years of a four-year Bachelor of Science (Nursing) degree, are given the opportunity to undertake the two-year Master of Nursing Science degree.

Associate Professor Helene Metcalfe, Course Co-ordinator of the Master of Nursing Science in the School of Population Health, said one of the benefits was that the students would have practicum experience in a number of clinical areas in WA.

Within the Bachelor degree in China, students undertake a minimum of 32 weeks of clinical hours over 3.5 years. They then complete a further 896 hours as part of

the UWA Masters degree. “So they will be exposed to a greater number and variety of clinical experiences,” Associate Professor Metcalfe said. Currently, one of the nursing students who visited UWA in 2012 is undertaking the program.

In addition to the articulation program, a Winter School program in which nursing and biomedical students attend UWA for four weeks is held in July each year. Four students recently attended the week-long intensive English language course followed by classes for three weeks. To date, students have come from SJU, Nanjing University and Shantou University.

“The exchange students add to the dynamics of the class,” Associate Professor Metcalfe said. “They bring something quite different to it, they have a very different experience of nursing in China and I think they are quite happy to share their experiences with the other students.”

Following completion of the Masters degree, the students are eligible to apply for registration as a registered nurse in Australia. “I think Shanghai would see these students returning as the nurse leaders of the future,” Associate Professor Metcalfe said.

The program would foster the relationship between UWA and China. “There is the opportunity for our students to form lifelong friendships,” she said. “This program may even prompt them to visit China. Communication does not seem a barrier and quite a few of our students are able to converse in Chinese.”

Moreover, collaborative research between the School of Population Health and SJU has begun. A study is evaluating the experience of Chinese students in the Faculty undertaking the Master of Nursing Science degree, Winter School, and one-semester exchange program.

Ms Grace Wu, a visiting research nursing fellow from SJU, said the exchange program meant the Chinese students would have a global perspective and a better level of English language.

“In Shanghai now we have many foreigners in commercial enterprises and I think the need for nurses who can take care of foreign people in China is important,” she said.

Ms Wu, who previously visited with the Winter School students, said the Chinese degree included the use of high-tech simulation laboratories and manikins that could interact with the trainee nurses.



MS GRACE WU, A VISITING RESEARCH NURSING FELLOW.

# Shining stars

A range of issues, including fertility, pregnancy, pre-term birth and adolescent health, will be addressed in the Rising Stars symposium, organised by the Women and Infants Research Foundation (WIRF). Held on October 10, it will showcase WA's outstanding emerging medical researchers. The event will be held at Matilda Bay restaurant in Crawley from 6pm to 9.30pm (cost \$85 for symposium, dinner and drinks). A separate Stars Event on "Advances and Discoveries in Fertility Treatment" will be held on October 9 at UWA Club from 5.15pm to 9pm. Anyone interested in attending the events can contact WIRF at 9340 1437 or book online at [www.wirf.com.au/stars2013](http://www.wirf.com.au/stars2013).

## Preventing premature birth is the goal

Innovative therapy to prevent premature births is the goal of research being undertaken at the UWA School of Women's and Infants' Health.

Research Assistant Professor Demelza Ireland is working with Professor Jeff Keelan on a National Health and Medical Research Council-funded project looking at the role of infection and inflammation in preterm birth. She will present some of her research findings at the Rising Stars symposium.

She said the hypothesis of their research was that preterm birth could be prevented if a mother identified at risk of having an intrauterine infection was treated with an antibiotic together with an anti-inflammatory agent into the amniotic cavity. The aim was not only to eradicate the infection, but to also block the subsequent inflammation that leads to preterm labour and fetal morbidity.

Intrauterine infection and inflammation is the leading cause of preterm birth prior to 34 weeks' gestation. Preterm birth is associated with approximately 70% of all neonatal morbidity and mortality and is a huge emotional and financial burden to families and the healthcare systems.

For her study, Dr Ireland is recruiting women in spontaneous preterm labour, with or without infection or inflammation of the placental membranes, who deliver early at 30-34 weeks.

Screening pregnant women for those with an increased risk of an infection-related preterm birth is the next step in her research. "We hope to develop a non-invasive screening test capable of identifying women at an increased risk of intrauterine infection and therefore select potential candidates for the combined antibiotic and anti-inflammatory therapy," she said.

The proposed screening test is based on identifying women who have a distinct immune reaction to *Ureaplasma* infection.

"*Ureaplasma* is one of the most common organisms found within the amniotic cavity of women who go into labour early," Dr Ireland said.

Her colleague, Research Assistant Professor Matthew Payne, who is also making a presentation at the symposium, is studying the association between vaginal *Ureaplasma* and *Candida* colonisation during pregnancy and preterm birth.

In collaboration with Dr Payne, Dr Ireland is furthering this research by studying maternal immune responses to *Ureaplasma* early in pregnancy. To this end, they are recruiting 200 women from the King Edward Memorial Hospital antenatal clinics and, with funding from the Telethon Channel 7 Trust, Dr Ireland is looking at antibodies and immune cell responses to *Ureaplasma* during pregnancy in a subset of these women.

Research Assistant Professor Ireland joined SWIH a year ago. She completed her undergraduate and postgraduate studies at UWA in microbiology and immunology and has a research background in tumour immunology and immunotherapy. She joined the SWIH team to work with Professor Jeff Keelan on his National Health and Medical Research Council-funded project targeting inflammatory pathways for the prevention of preterm birth (2012-2014).

## Tracking stress reactions in teens

Adolescents appear to respond with one of three distinct patterns to psychological stress, according to new findings.

Ms Carly Herbison, PhD student in the School of Women's and Infants' Health and Research Officer at the Telethon Institute for Child Health Research, said it was the first time these patterns had been identified and represented a new way of looking at the stress response in normal, healthy teenagers.

She will present the findings at the Rising Stars symposium.

Ms Herbison said it was believed that, depending on their stress response, some people would be more likely to develop problems such as cardiovascular disease, diabetes, and mental health problems such as depression and anxiety.

If the findings are validated, they could lead to the development of interventions to help prevent long-term stress and its sequelae.

"It's possible that you might be able to change your stress response and there is some evidence to support this," Ms Herbison said. Measures used in the literature included mindfulness techniques and cognitive behavioural therapy.



RESEARCH ASSISTANT PROFESSOR DEMELZA IRELAND (LEFT) AND MS CARLY HERBISON

In the "Challenge Me" study, researchers used the gold standard scientific method for measuring the body's hormone responses to a psychological stress in the largest, adolescent, community-based sample to date, providing increased power to detect subtle differences.

It involved a psychological challenge administered individually to 1,137 members of the well-known Raine cohort when they reached 18 years of age. The exact nature of the challenge - a public speaking task and maths challenge - was only revealed to the participant once the study had begun and was designed to provoke a mild stress response.

A number of blood and saliva samples were collected before and after the test so hormonal changes during and after the stressful experience could be measured.

The aims of the study were to characterise individual stress-response profiles within the cohort and examine their relationship with factors known to contribute to variation, including gender, smoking, the oral contraceptive pill and body mass index (BMI).

"I am also particularly interested in looking at the stress that someone has suffered in their early life, their parental mental health and also their genetics and how these influence their stress response," Ms Herbison said. "The incredible thing about the Raine Study is that we have data from 18 weeks' gestation right through to 20 years of age, so it's possible to look at these things."

Ms Herbison said late adolescence was an ideal age to look at the stress response after the sex hormones from puberty had stabilised. "If we can understand what's happening with the stress response in this transitional stage between childhood and adulthood, maybe in future we can intervene before your response to stress impacts on your health," she said.

## Next-gen hearing implants *continued from page 8*

amounts of hearing because of the cancer treatment.

"We have introduced new types of middle ear implants with the next generation of bone conduction implants which offer new hearing options for patients born with ear malformations or destroyed by trauma or infections."

## Cancer stem cell research

Research for the detection and targeting of cancer stem cells in head and neck cancers is being conducted by one of Professor Rajan's groups, in conjunction with Curtin University and the Roswell Park Cancer Institute in the US.

"The area we are very excited about is cancer stem cell research," Professor Rajan said. "It is believed cancer stem cells play a key role in cancers that are resistant to treatment with chemotherapy or radiotherapy, in invasive cancers that metastasise, and in cancers that recur after treatment. Cancer stem cells are held responsible for the resistance of cancers to current treatment lines."

The aim is to better identify the cancer stem cells and then target them.

Professor Rajan said the causes of head and neck cancers were traditionally denoted as smoking and alcohol but now the human papillomavirus (HPV) was emerging as a major cause, which in turn changed the behaviour and biology of these cancers.



THE POLYMER-BASED COCHLEAR IMPLANT PROTOTYPE

## Low cost implant

A low cost cochlear implant is being developed by Professor Rajan's group in collaboration with colleagues from the Seoul National University .

They are finalising a prototype that is purely polymer-based and different from traditional models made with titanium, platinum wires and silicone coating.

"This can bring down the production cost by a factor of 10 to 15, which means we can probably make the implants for \$1,000 to \$2,000," Professor Rajan said. The standard cost is \$25,000 to \$30,000.

Other advantages were that the prototype was lighter, required less energy and was easier to manufacture.

"Cochlear implants are all made by hand still but with this technology it would probably be almost mass production," he said.

The group is preparing clinical trials of the new model.

## Tele-medicine takes off

Tele-medicine and tele-mentoring are being used to train ENT specialists and give them a "virtual hand".

"We can basically connect any theatre in WA with us at Fremantle Hospital or Princess Margaret Hospital," Professor Rajan said. "It is like Skyping into theatre and it is a low cost option." The system costs about \$700 compared with commercially available systems worth \$30,000.

"It allow you to supervise trainees and registrars and to teach, so if you are doing an interesting operation at Fremantle or PMH, people can log in from anywhere in the Health Department and follow it, watching it on the computer," Professor Rajan said.

"Or if I am overseas and someone wants me to supervise and give them a virtual hand, I can log in from overseas while they are operating and we can talk and go through it."

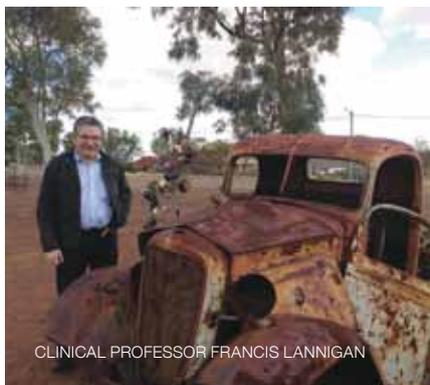
The surgeons have used it to perform mapping and rehabilitation for hearing implant patients in remote areas such as the Kimberley and Christmas Island

"They need regular mapping, that is, programming and checking of settings of the implant," the professor said.

- *Stories by Cathy Saunders*



CLINICAL ASSISTANT PROFESSOR ALEXANDER RING



CLINICAL PROFESSOR FRANCIS LANNIGAN



CLINICAL ASSOCIATE PROFESSOR SHYAN VIJAYASEKARAN



CLINICAL ASSISTANT PROFESSOR STEVE RODRIGUES

### THE TEAM

MISSING ARE CLINICAL ASSISTANT PROFESSOR JAY KRISHNASWAMY AND RESEARCH FELLOW AND PHD STUDENT MRS DAYSE TAVORA-VIEIRA.



RESEARCH FELLOW AND PHD STUDENT MS ROBERTA MARINO

## the word is out - Faculty in the news

### Quoted as Saying The West Australian

Professor Roger Hart, of the School of Women's and Infants' Health, is QAS sex selection of babies is not allowed in WA. "Even if sex selection were made acceptable under Federal law, it would still be illegal under WA law, unless for the purpose of avoiding the transmission of a serious sex-linked hereditary condition after permission is sought from the WA Reproductive Technology Council," he said. He was commenting on the fact that some Australian couples are bypassing local laws by travelling overseas to countries that allow fertility clinics to screen and select three-day-old embryos for a specific gender. The laws in Australia state that sex selection is not on unless it is being used solely to prevent a serious sex-linked genetic condition such as haemophilia or muscular dystrophy, using pre-implantation genetic diagnosis or PGD.

Winthrop Professor Stephen Zubrick, of the Telethon Institute for Child Health Research, is QAS skipping 16 days of primary school a year puts a Year 3 student six weeks behind in academic performance in maths, compared with a student who misses no school. He was commenting on a study he co-authored that found WA primary students are missing an average of 16 days a year of school. The study, based on data collected from 400,000 WA public school students in the past five years, found any absence from school had a cumulative negative effect on students' future achievements in reading, writing and maths and concluded there was no safe threshold of tolerable absences. It linked school attendance records with national literacy and numeracy (NAPLAN) test results.

## Rule number one: have a good idea

*continued from page 7*

"I would often say to women, 'This is your baby's birthday but your baby is now nine months' old and what does that nine months of experience mean for the rest of its life?'"

He became increasingly aware that the medical literature did not cover that subject.

"The job of obstetrics was to deliver the baby alive and medicine and risk factors for health and disease were not considered to begin until birth. I couldn't believe that it could be true but I could find no-one interested," he says.

In fact, he recalls that even as a medical student he disagreed with a key textbook that described the fetus as "a passenger".

### Australian Financial Review

Clinical Professor Ronald Cohen, of the School of Pathology and Laboratory Medicine, is QAS nerve-sparing during surgery for prostate cancer doesn't always correlate with potency. "It might look like a very good nerve-sparing procedure but we don't know how the tissue was handled," he said. "Sometimes we receive a prostate with a lot of nerve tissue and we think, 'oh no, this is a disaster for potency', but the patient inexplicably regains his potency. There are many variables." He was commenting on advances in nerve-sparing.

### Medical Observer

Professor Alistair Vickery, of the School of Primary, Aboriginal and Rural Health Care, is QAS he thinks part of a GP's role is to filter information gleaned by patients from the internet and advise them as to what is reputable. He was commenting on the results of a survey of 1400 people, commissioned by Eastern Melbourne Medicare Local, which found GPs were the most trusted source of health information ahead of pharmacists. However, more than one in 10 respondents (11%) also listed Facebook or other social media websites as a trusted health resource, while 56% said they had either some or a great deal of trust in "Google or other internet searches". Professor Vickery said while it was encouraging to see GPs at the top of the list, the results demonstrated the need for GPs to help direct their patients to more reputable online content. The report found that after GPs (94%), pharmacists (89%) were the next most trusted source of health information followed by family or friends (65%), medical websites or forums (63%) and health books (61%).

It was on his return to Perth that he determined to research the burning topic of the undiscovered world of life before birth and after he wrote a grant application in 1988, the now world-famous Raine study was born.

Over the past few years, more than 40% of the National Health and Medical Research Council grants to the Medical School have been related to the early origins of disease.

The professor's remaining big goals are to help lower the rate of pre-term birth in WA and to address the epidemic of gestational diabetes, which can lead to obesity and diabetes later in life.

- By Cathy Saunders

## Pathology celebrates

The School of Pathology and Laboratory Medicine hosted a dinner at The University Club on August 24 to recognise the centenary of The University of WA.

The "UWA Centenary Pathology Dinner" was attended by 70 people, including Nobel Laureates Senior Honorary Research Fellow Robin Warren and Professor Barry Marshall, former Heads of School, retired and current pathologists, academic staff and a student representative. The event brought together the UWA pathology community to celebrate the University's achievements.

Former UWA Vice-Chancellor Emeritus Professor Alan Robson, who oversaw and supported the transformation of the School with its upgraded and new laboratories, was guest speaker. He spoke of the history of the University and the place of pathology. He paid particular mention of the Foundation Professors of Pathology (Rolf ten Seldam) and Microbiology (Neville Stanley) and the strength they brought when they came to UWA in 1957.

Head of School Winthrop Professor Wendy Erber, who together with Winthrop Professor Jennet Harvey and Clinical Associate Professor Gary Hoffman, organised the celebration, spoke about the history of the School, its current activities and some future plans. "The School of Pathology and Laboratory Medicine wanted to acknowledge the centenary of the University, even though it is not the centenary of Pathology," Professor Erber said. "We wanted to bring as many members of the UWA pathology community together to acknowledge the milestone for UWA."



NOBEL LAUREATES PROFESSOR BARRY MARSHALL (LEFT) AND SENIOR HONORARY RESEARCH FELLOW ROBIN WARREN WITH DIAN TEGUH, A PHD STUDENT IN THE SCHOOL OF PATHOLOGY AND LABORATORY MEDICINE, AT THE UWA CENTENARY PATHOLOGY DINNER.

## Interprofessional learning

# An eye opened onto rural health

**Five UWA Master of Pharmacy students** took part in a two-week vocational rural placement in the July break this year, thanks to Rural Health West and the Combined University Centre for Rural Health (CUCRH).

Based in Geraldton, activities included home medication reviews, drug usage evaluations, time at an observational day therapy unit and with Silver Chain, and a trip to Mt Magnet. The placement provided Aboriginal cultural sessions and fostered inter-professional learning with other student health professionals.

Ms Jessica Abbott, one of the pharmacy students, had this to say about her experience:

This placement was an eye opener for me. I would like to say that I went



MS JESSICA ABBOTT, MASTER OF PHARMACY STUDENT



KALBARRI NATIONAL PARK, WA

in with a completely open mind but the fact is that no matter how hard you try, you will always bring to a new experience the preconceptions of your last; that is unchangeable. Saying that, in this placement I have gained valuable experience and insights into rural health and it has made me challenge my previous thoughts and understandings of the multiple issues facing rural health. While participating in the rural experience, we attended Aboriginal Australian cultural sessions with the aim of creating a better depth of understanding and background

on how to approach certain health issues with the Aboriginal community.

At Geraldton regional hospital, UWA students also spent some time in the day therapy unit. This was an excellent aspect of this placement, broadening my experience of how other health professionals can offer support to a patient's health. Looking at the roles of occupational therapists, a physiotherapist and a speech pathologist and seeing them put it into practice gives me a greater understanding of the vital connectivity of other services in the health system and how to incorporate those aspects of health in a future health plan to provide optimum care for a patient. Inter-professional learning with the other students doing their practicals in Geraldton and working closely together in collaborating information and gaining their individual insights based on their profession showed that co-operation between professionals can greatly improve a patient's health outcome. The adaptive ability of these observed relationships created an instructive environment in which to grow and learn.

Rural health relies upon the diversity and community support of its health work force to maximise its outcome and reach across the wider rural community. This placement gave me memories and friendship which I will never forget and experiences which I will cherish and draw upon in my future career.

## POINTS TO PONDER

Does your grey matter need a kick start each day? Emeritus Professor Bernard Catchpole has posed a series of points to ponder that he suggests readers may like to contemplate as they clean their teeth in the morning.

If you have any bright solutions you would like to share, please send them in to the editor at [cathymsaunders2@gmail.com](mailto:cathymsaunders2@gmail.com)

Brain teaser: Children are said to grow more in summer than in winter. Why is this?

(q.v. Letter in New Scientist, 22-09-2012)

## WITS ABOUT YOU

(Answers page 16)

1. What are the features of the Rett syndrome?
2. The nutritional value of human and some other mammals' milk is greater for male or female offspring. Which?
3. What is S.A.R.S.?
4. The Trivers-Willard hypothesis suggests that natural selection, when times are hard, favours parental investment in daughters or sons?
5. How did Frederick Gowland Hopkins gain a knighthood and a Nobel prize?

## New medical course reviewed



THE AUSTRALIAN MEDICAL COUNCIL (AMC) ACCREDITATION PANEL (FROM LEFT): PROFESSOR GEOFF MCCOLL, DIRECTOR OF THE MEDICAL EDUCATION UNIT AT MELBOURNE MEDICAL SCHOOL AND DEPUTY DEAN OF THE FACULTY OF MEDICINE, DENTISTRY AND HEALTH SCIENCES AT THE UNIVERSITY OF MELBOURNE, MS SARAH VAUGHAN, AMC MEDICAL SCHOOL ASSESSMENT OFFICER, DR CATHERINE HENDERSON, GP AT THE HOMEWORLD HELENSVALE MEDICAL CENTRE IN QUEENSLAND, PROFESSOR ANNE TONKIN (CHAIR), DIRECTOR OF THE MEDICINE LEARNING AND TEACHING UNIT AT THE UNIVERSITY OF ADELAIDE, DR JAMES CHURCHILL, MEDICAL INTERN AT THE AUSTIN HOSPITAL IN VICTORIA, PROFESSOR IAN SYMONDS, DEAN OF THE JOINT MEDICAL PROGRAM AT THE UNIVERSITY OF NEWCASTLE AND UNIVERSITY OF NEW ENGLAND, MS ANNETTE WRIGHT, AMC MEDICAL EDUCATION AND ACCREDITATION PROGRAM MANAGER, AND PROFESSOR JANE DAHLSTROM (DEPUTY CHAIR), PROFESSOR OF ANATOMICAL PATHOLOGY AT THE AUSTRALIAN NATIONAL UNIVERSITY.

An important stage in the transition from offering medicine as an undergraduate to a postgraduate degree from next year took place in June, when the Australian Medical Council accreditation panel spent a solid week reviewing the new Doctor of Medicine (MD) course.

The panel members spent time not only at the Faculty on the UWA campus but also at King Edward Memorial Hospital, Sir Charles Gairdner Hospital, Joondalup Health Campus and the Fiona Stanley Hospital site.

They had meetings with senior Faculty

members, many committees including the MD curriculum contents committee and teaching and learning committee, as well as staff from the Rural Clinical School, Centre for Aboriginal Medical and Dental Health, and IT and eLearning support, plus students. They also met the Heads of Schools, including the two Schools outside Faculty which teach into the MD, that is, the School of Anatomy, Physiology and Human Biology, and the School of Chemistry and Biochemistry.

The visit was praised as having gone very smoothly.

### Answers to the quiz on page 15

1. A development condition in which profound mental retardation is almost a universal symptom.
2. Quite markedly for the male!
3. The Severe Acute Respiratory Syndrome caused by a corona virus and spread by small animals, inter alia.
4. Daughters. In boys when times are easy!
5. For biochemical work on vitamins.

### Contact Us

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## Reunite

The following reunions will be held over the next couple of months:

- 10th Medical reunion (class of 2003) in the formal dining room, The University Club. October 5, 7.30pm.
- 30th Medical reunion (graduating class of 1983) at the outdoor terrace, The University Club. November 2.
- 50th Medical reunion (class of 1963) in the Hackett Hall. November 9.
- 20th Medical reunion (class of 1993) in the formal dining room, The University Club. November 23.

Those interested in attending can contact Ms Lauren Hubbard, Faculty Development Officer, on 6488 4205.