Reluctant retiree - a stalwart of the Faculty steps down

After a decade of managing the Faculty’s physical, financial and human resources, Ms Sue Henshall is retiring to live on the less sandy soil of Melbourne and spend some time with her folks. See profile pages 8 and 9.

Unplugging the bottlenecks of care for cancer patients

Campaigns to help raise awareness of cancer symptoms are being developed in a bid to help reduce delays in diagnosis of rural cancer patients.

The campaigns will be rolled out in several regions in rural WA later this year. They will cover the four most common cancers - lung, breast, colorectal and prostate.

New services aimed at improving access to cancer diagnostics will also be developed. The initiatives are part of an intervention trial aimed at reducing delays in treatment for rural cancer patients, thereby hopefully improving survival rates and other outcomes.

The Rural Cancer Partnership Project involves the Faculty, Cancer Council WA, WA Cancer and Palliative Care Network and the WA Health Department.

The five-year project has attracted almost $2 million in funding, including a grant of more than $1.2 million from the National Health and Medical Research Council - one of the largest grants in Australia.

Winthrop Professor Jon Emery, Head of the School of Primary, Aboriginal and Rural Health Care, Winthrop Professor D’Arcy Holman, Chair in Public Health in the School of Population Health and Winthrop Professor Christobel Saunders, Deputy Head of the School of Surgery, are leading the project.

The developmental phase of the project was completed recently and the next phase will be a randomised controlled trial (RCT), which will begin later this year.

Professor Emery said the aim of the development phase was to pinpoint the bottlenecks in a patient’s journey from developing symptoms to receiving treatment.

Continued page 13

Observations of a stunt man led to ecstasy research

The “rave” drug ecstasy is providing inspiration for the design of therapeutic drugs - one for an aggressive cancer and another for Parkinson’s disease.

Researchers from UWA have discovered two different analogues (slightly modified molecules) of the designer party drug, formally known as MDMA (methylene-dioxy-methamphetamine) - and it was the observations of a stunt man that led to the discovery of one of them.

Associate Professor Matthew Piggott, a medicinal chemist in the School of Biomedical, Biomolecular and Chemical Sciences in the Faculty of Life and Physical Sciences, said Parkinson’s disease was plagued by a complication called dyskinesia - involuntary movements associated with prolonged use of the drug levodopa to treat the disease.

“These involuntary movements are often mistaken as a symptom of Parkinson’s disease, when in fact they are a side-effect of levodopa therapy,” he said. Although there are some treatments for levodopa-induced dyskinesia (LID), such as deep-brain stimulation and other neurosurgery, a new, less risky treatment would be welcomed.

Interest in MDMA arose when a UK stunt man, who developed Parkinson’s disease and levodopa-induced dyskinesia at an early age, took the recreational drug at a rave party and found the dyskinesia disappeared.

Continued page 15
Patients with type 1 diabetes who fail to recognise when their blood glucose is running dangerously low may be helped to regain their hypoglycaemia awareness by a new insulin pump with feedback technology being trialled by Faculty researchers.

The new pump is considered to be the first step towards an artificial pancreas. Up to one-third of people with type 1 diabetes have impaired awareness of hypoglycaemia (IAH). Type 1 diabetes affects more than 120,000 people in Australia alone.

Pediatric endocrinologist Dr Trang Ly, who is a second year PhD student with the School of Paediatrics and Child Health (SPACH), and Professor Tim Jones, also of SPACH, are conducting the trial at Princess Margaret Hospital for Children.

It includes patients aged 4-50 years with type 1 diabetes and IAH who have been on insulin pump therapy for at least six months.

Dr Ly said when patients with diabetes had low blood glucose - a side effect of insulin therapy - their body usually released adrenaline in a counter-regulatory response and they became shaky and sweaty as a warning.

IAH describes when patients have lost their counter-regulatory response.

“They get less glucose to the brain and they might become confused as their first symptom,” Dr Ly said. “If they have a prolonged episode overnight, they might have a prolonged seizure. We know already that sleep itself also impairs counter-regulation to hypoglycaemia.”

The trial involves a new insulin pump, which detects hypoglycaemia and sets off an alarm. It automatically switches off insulin infusion for two hours if the blood glucose level is ≤3.3mmol/L and the patient does not respond to the alarm.

It is used together with a real-time continuous glucose monitoring system (CGMS), which enables the patient to see updated blood glucose readings from a sensor every five minutes.

Half the patients in the trial will be randomised to the new pump and half to a standard pump.

The aim is to determine whether the new technology with the switch-off function can improve the rate of moderate and severe hypoglycaemia, hypoglycaemia awareness and hypoglycaemia at night.

Dr Ly, who is a UWA medical graduate, said earlier studies in adults had shown that if patients avoided hypoglycaemia for as little as 3-4 weeks, it was possible to regain the counter-regulatory response. The warning symptoms and hormone responses often returned and therefore reduced the risk of severe hypoglycaemia.

However, strict avoidance of hypoglycaemia was difficult to achieve in practice.

A small pilot study by Dr Ly’s group of 11 adolescents with type 1 diabetes and IAH showed that use of the new pump for four weeks improved the adrenaline response during hypoglycaemia compared with standard medical therapy and appeared to be a useful clinical tool to improve IAH. The study was published in Diabetes Care in January.

This trial will also look at whether there are any changes in quality of life, and fear of hypoglycaemia in patients.

Continued page 10
Winds of Change

It is now 12 months since the hail storm of 2010 that scattered Faculty Office to the four winds from its previous location at N-Block on the QEII Medical Centre campus. The geographical dislocation that resulted from that unforeseen event, although initially stressful for all involved, has seen a silver lining to what was then a dark cloud. The Faculty Office has now become established on the main Crawley campus of the University for the first time since the inception of the Medical School 64 years ago and the Dental School 64 years ago. The initial temporary relocation to the Clinical Training and Evaluation Centre (CTEC) near the Hackett No 2 Entrance is to become permanent, with ongoing restructure and refurbishment at CTEC that should see the Office of Student Affairs and the central Faculty executive reunited under one roof within a couple of months. The Education Centre has already relocated to newly refurbished quarters at 10 Stirling Highway and the Faculty IT group will return to a fully restored N-Block (together with our School of Primary, Aboriginal and Rural Health Care) by the middle of the year. The temporary dislocation over the past year has seen closer alliances and relationships forged with other parts of the Faculty and the university as well as greater efforts by all staff concerned to remain connected, responsive and efficient despite the geographic divides.

Clinical Schools?
The hail storm and its consequences are possibly a metaphor for the Faculty more broadly. We need to ask whether it is now timely and necessary for large scale restructure of our Schools and our governance through the development of a regional Clinical Schools model. Although anticipated to be initially disruptive and demanding, it may be the optimal vehicle for further enhancing our relationships and interactions with the primary, secondary and tertiary health sectors together with closer alignment of the Faculty with its affiliated research institutes and research centres. The majority of the clinical teaching within our Medical School is carried out by clinicians affiliated to the University but not employed as academic staff. In our current structure and governance model there is insufficient input by these clinicians to our curriculum design, content and pedagogy. A regional Clinical School model could see this redressed, with the Faculty structured around partnerships in geographical hospital clusters in contrast to our current structure which links clinicians and researchers across the sector on the basis of discipline alone. Clinical disciplines such as medicine, surgery, psychiatry and emergency medicine could be re-grouped in a regional Clinical School model for their teaching while their research affiliations become more closely aligned with multidisciplinary groups in research centres and institutes. This could result in an Eastern Clinical School centred on the Royal Perth Hospital and the soon to be constructed new Midland Hospital, a Western Clinical School centred on the Sir Charles Gairdner Hospital and the rapidly expanding Joondalup Health Campus and a Southern Clinical School initially with Fremantle Hospital as the focus but ultimately centred on the new Fiona Stanley Hospital. Each of these schools could forge stronger academic associations with secondary hospitals in their region together with enhanced links into primary care in nearby localities. Such a model could be the optimal vehicle for much stronger and productive partnerships between clinicians and academics to further enhance the quality of our teaching, training and research environment. Our students would be predominantly aligned to one of these Clinical Schools throughout their course, allowing closer mentorship and a distinctive regional clinical experience. Broader links to all health-related professions in each region could ultimately be envisaged with substantially augmented opportunities for interdisciplinary learning with respect to dentistry, nursing, podiatric medicine, population health, social work and pharmacy, simultaneously enhancing the quality of the training environment for each of these disciplines.

The Way Ahead
This is already a time of major change at UWA with the imminent commencement of New Courses 2012, a sentinel reform which will ultimately see all of this Faculty’s professional courses transition to Cycle 2 Masters level degree programmes, with the 6-year Bachelor of Medicine and Bachelor of Surgery (MBBS) becoming a 4-year Doctor of Medicine (MD) from 2014 and both the 5-year Bachelor of Dental Science becoming a 4-year Doctor of Dental Medicine (DMD) and the 4-year Bachelor of Podiatric Medicine becoming a 3-year Doctor of Podiatric Medicine from 2013. These changes are occurring alongside major reforms and restructure of the health sector as well as transformation of our research environment with construction either already commenced or planned for 4 major new medical research institute buildings on the QEII and Fiona Stanley medical campuses. Whether it is also time for the development of a Clinical School model that dovetails with these developments is now being considered by a working party of Faculty Board throughout 2011. I look forward to the outcome of their deliberations as we work together to ensure that a world class structure is maintained if not further strengthened as we tackle a rapidly changing environment for health service delivery, health professional education and health and medical research into the future.

The Dean’s Desk
Research by a Faculty School group has led to calls to develop a nationally consistent approach to the management of poorly behaving medical students.

Two fourth year medical students, Debbie Olson-White and Marie Holgate, supervised by Associate Professor Paul McGurgan of the School of Women’s and Infants’ Health, surveyed Medical Schools in Australia to examine the use of a fitness-to-practise policy (FTTP).

The research team was specifically interested in the number of students excluded for professional misconduct in the past five years, criteria used and the remediation policies in place. The findings were published in the *Medical Journal of Australia* in December last year (1) and have prompted interest in further developing UWA policy in this area.

Associate Professor McGurgan said that FTTPs were relevant to medical, dental, podiatry, nursing and other health science students.

“These students witness patients at very vulnerable times, for example when patients are diagnosed with a terminal illness, or during surgery,” he said.

“Medical students, in particular, have a very close and privileged position in the doctor-patient relationship during their training and because of that, we expect them to behave like qualified doctors. As such they need to demonstrate different standards of behaviour and professionalism than students from other academic disciplines.”

In addition to formal training in these issues, medical students were exposed to a “hidden curriculum”, where learning occurred through modelling, with students observing the doctors who taught them and monitoring each doctor’s behaviour during interactions with patients and other staff, Associate Professor McGurgan said. “That is a very powerful message to give students and puts an onus on those teaching medical students to have exemplary professional behaviour,” he said.

He and his co-researcher, Associate Professor Diane Carmody, also of the School of Women’s and Infants’ Health, had an interest in how they taught the students professional behaviour and what sort of assessment was going on in regard to that.

Associate Professor McGurgan said. Previous research has shown this to be important in the future doctor’s long term professional development, as medical students requiring intervention for inappropriate behavior are more likely to have postgraduate difficulties identified by either medical boards or professional review committees.

“We’ve always been aware of the need to send students out with appropriate professional behaviour – the difficulty is that academic institutions are very good at assessing knowledge and skills but have difficulties in assessing behaviour as it is more subjective,” Associate Professor McGurgan said.

As a doctor and teacher of medical students, he had found that the vast majority of students were a pleasure to work with and patients responded very positively towards them, but there were occasional students whose inappropriate behaviour manifested in a variety of ways, such as alcohol or drug-related problems, he said.

His research team conducted a literature search which revealed that there was very little information about the use of FTTPs in Australia. This prompted them to survey the Deans of all Australian Medical schools on the use of FTTPs, the criteria used for exclusion of medical students, remediation processes, and the number of students excluded for professional misconduct in the past five years. Of the 19 schools, 15 responded and 12 had an FTTP.

“The individual university policies lack consistency, which means that the playing field isn’t very level for the students,” Associate Professor McGurgan said. Areas of concern commonly considered in such policies include criminal conviction or caution, aggressive behaviour, poor performance, drug or alcohol misuse, cheating or plagiarism, health or mental health issues, and dishonesty or fraud.

However there was significant variation in which of these criteria the medical schools used in their FTTPs.

The survey also revealed that less than one per cent of students had been excluded from medical schools in the past five years.

1. *MJA* 2010; 193; 665–7
The next generation of super-technology for ultra-fast analysis of genetic information to help diagnose diseases and carry out medical research is now available to WA researchers.

Thanks to a generous donation from Perth businessman Mr Charles Morgan, chair of the WA Government’s Technology and Industry Advisory Council, it will be easier, quicker and cheaper to carry out genome sequencing and genetic analysis of diseases including neuromuscular disorders and cancers.

The gift of almost $1 million was used to buy Next Generation sequencing equipment which can be used by medical and scientific staff across all universities and research organisations in WA.

The equipment includes two high-capacity (SOLiD) genome sequencers, an OpenArray device to carry out other genetic and expression analyses, plus associated robotics.

Associate Professor Richard Allcock, lead scientist for the Lotterywest State Biomedical Facility: Genomics (LSBFG), said a suite of technologies for DNA sequencing had been around for about 30 years and applied to a variety of areas of medical research and diagnostic medicine.

DNA sequencing was used to look for mutations that might play a role in cancer, and changes in individuals that might predispose towards other sorts of genetic disease such as muscular dystrophy, Huntington’s disease or Alzheimer’s disease.

A lot of equipment to analyse DNA in different ways had been housed at the LSBFG at Royal Perth Hospital since 2005. However, Mr Morgan’s generous donation had enabled them to buy the very latest equipment.

“The sequencers that we had before have given us small amounts of sequence,” Associate Professor Allcock, of the School of Pathology and Laboratory Medicine, said. “These sequencers will give us absolutely massive amounts of sequence.”

For example, 100 gigabases, which is 100,000 million bases or “letters” of the genetic code, of sequence can be generated in a single run.

“If we wanted to do that with the old equipment, it would have taken decades,” Associate Professor Allcock said while such equipment existed in some facilities in other states, the LSBFG was unusual in that it was one of only two in Australia that allowed open access to all researchers, from universities, government departments such as health, agriculture, environment and conservation, the CSIRO and even private individuals.

Associate Professor Allcock said he hoped to be inundated with requests for use of the new equipment, which would probably run 24 hours a day.

In a bid to encourage uptake of the equipment, Mr Morgan has also offered a $20,000 prize to the first WA researcher whose use of the equipment leads to a paper published in Nature, Science, Nature Genetics, Lancet, The New England Journal of Medicine, or Cell.

Associate Professor Allcock said other good news was that the equipment’s successor, which doubled the capacity to 200 gigabases in a single run, would be delivered when it became available, probably in April or May. “So we will have one of those as well - it is all part of the donation.”

Associate Professor Allcock said the LSBFG, which was supported by the School of Pathology and Laboratory Medicine, was connected to the diagnostic world through RPH and the research world through UWA.
IMPROVING THE ODDS
More rural students able to train in medicine and dentistry

The quota of places for WA rural students in medicine has increased more than six-fold in the past decade, thanks to the Faculty’s highly successful rural student recruitment program.

Over the same time frame, the percentage of places for country students to study dentistry has jumped 10-fold, from a base of zero.

Faculty Student Support Coordinator, Ms Sue Pougnault, said a quota of 25% of places for medicine and 10% for dentistry were set aside for rural students. Before the start of the program, there was a 4% intake of rural students into medicine and 0% into dentistry.

In the 10 years since the program started in 2000 up until last year, 325 WA rural students have been offered places to study medicine and 36 to study dentistry.

Ms Pougnault said the success of the program was far beyond her expectations.

“When I put the initial proposal together for the rural student recruitment program, it lay dormant for 12 months before Rural Undergraduate Support and Coordination (RUSC) funding became available at the beginning April of 2000,” she said.

“We had no printed material, just this idea of how the programs could be facilitated. With determination, everything was put into place, 10 workshops were held in regional areas that year and the program was up and running.”

Despite the fact that acceptance of the program within the university and in rural areas was a struggle in the beginning, the many problems were worked through and in the first year, 10 WA rural students were accepted into medicine and one into dentistry, Ms Pougnault said.

Workshops are held in Kununurra, Broome, Port Hedland, Karratha, Geraldton, Bunbury, Manjimup, Busselton/Margaret River, Albany, Narrogin, Esperance, Kalgoorlie, Merredin and Northam.

A minimum of one student from every site visited has been successful in entering medicine from rural WA over the 10 years. And in all, 1,987 rural students have attended workshops over that time.

Staff and students from the Rural Clinical School of WA who offered their support by attending the workshops had made a tremendous impact on the workshops, Ms Pougnault said.

“Their support is really appreciated by the rural students who gain inspiration from the RCS students talking about their own experiences entering university to study medicine,” she said.

The rural high schools have also been supportive. “The provision of good information, ongoing encouragement and mentoring and the acceptance of the program by students and staff from the rural high schools throughout the state have increased significantly the number of rural students applying to study medicine and dentistry,” Ms Pougnault said.

In another new development, a number of rural students who were part of the program from high school but were unsuccessful in gaining a place to study medicine in the undergraduate course are now starting their medical studies in the graduate course.

Winthrop Professor Geoff Riley, Head of the Rural Clinical School of WA, said Ms Pougnault deserved a lot of credit for the program.

“Its success has been very important for the Faculty and, indeed, the University and it may just be the best in the country,” he said. “It has taken a while but it is certainly generating considerable interest in other quarters.”

Professor Riley said he was constantly being accosted in country towns by parents who wanted to tell him how wonderful Ms Pougnault was and how she had changed their child’s life.

Freshers to campus who have been mentored and supported through the rural student recruitment program include (from left) Mitchell Sambell, of Karratha (medicine) Mitchell Scott, of Esperance (medicine), Georgia Mathew-McCaw, of Manjimup (medicine) and Gabrielle Rogers, of Geraldton (dentistry).
A new and better test to help diagnose autism in children has been developed by a team that includes Faculty researchers.

It is hoped the new tool will make it easier to pick up children with autism or autistic-like traits at a younger age, leading to earlier intervention.

Adjunct Professor Johanna Badcock, of the School of Psychiatry and Clinical Neurosciences, said the new visual processing test was simpler than a traditionally used alternative. It could also be used repeatedly, unlike the usual test in which each version can only be used once.

Adjunct Professor Badcock, who is a specialist clinical psychologist at the Centre for Clinical Research in Neuropsychiatry, said autism was a serious development disorder normally diagnosed on the basis of impairment of social interaction and communication.

It was also characterised by poor language development and restricted and repetitive patterns of behaviour.

“One thing that is somewhat extraordinary, however, is that in the visual domain, individuals with autism or autistic-like traits tend to be superior on some tasks,” Adjunct Professor Badcock said.

The aspect of visual functioning that has been widely tested is the ability to search for objects embedded in an image.

The traditional test, known as the Embedded Figures Test (EFT), involves the detection of a target shape, such as square or a triangle, hidden within a complex background.

“Individuals with autism are faster, but no less accurate, at finding those targets,” Adjunct Professor Badcock said. Uniformly, they are significantly faster than children who are developing normally.

The problem with the EFT that limits its use in children with autism is that once the target has been found, it is usually remembered and the test cannot be repeated.

So the team devised a different tool, dubbed the radial frequency search task, to assess autism.

It is a computer-based task with simple shapes that can be systematically changed, enabling it to be used many times over.

“It can be used to track over time in any one individual how their visual processing performance develops,” Adjunct Professor Badcock said.

“We also wanted to know the biological basis that might be involved in this extraordinary, unique ability these children have – given that so many other aspects of their ability are impaired.

“Variations on this test may be used to tell us where in the brain these sorts of images are being processed.”

As the test doesn’t rely on verbal stimuli, it potentially could be introduced to very young children and therefore help with very early assessment, she said.

It is likely to be used to monitor the siblings of children diagnosed with autism.

“You would want to do that as early as possible because it is clear from all the other available evidence that intervening early has the best and most advantageous outcome,” Adjunct Professor Badcock said.

Because the test is aimed at young children, it is hoped the screen-based task will be seen as a game.

“Children can take these tests and feel like they are actually enjoying doing them,” Adjunct Professor Badcock said.

The test has been trialled in about 150 adults with autistic-like traits.

The development of the test forms part of the research thesis of PhD student Renita Almeida and was published in Neuropsychologia last year.

The research team also includes Professor Murray Mayberry and Winthrop Professor David Badcock, both of the School of Psychology in the Faculty of Life and Physical Sciences, and Dr Elizabeth Pellicano, of Bristol University.

Adjunct Professor Badcock is also part of a team which has received a prestigious award for a project titled “Establishing a UWA-UQ network for collaboration in autism research.”

The UWA-UQ Bilateral Research Collaboration Award is a new research award to foster collaborative research projects between UWA and the University of Queensland.

The team, which received a seeding grant of almost $20,000 to develop a full grant application, consists of Winthrop Professor David Badcock, Adjunct Professor Johanna Badcock, Professor Murray Mayberry, Professor David Ravine, of the School of Pathology and Laboratory Medicine, Dr Andrew Whitehouse, of the Telethon Institute for Child Health Research, Winthrop Professor Mike Anderson, of the School of Psychology, and Dr John Wray, Head of Community and Developmental Paediatrics at the State Child Development Centre.

- By Cathy Saunders
There is a secret to the supreme efficiency of Sue Henshall, Faculty Manager and right hand to two Deans over the past 10 years.

"I am neurotically organised," she says with a chuckle.

What Sue fails to mention is her intelligence, astuteness, kindness and sense of humour that have all helped keep the enormous machine, the Faculty, running smoothly.

She also has a prodigious memory –so when she takes her final bow on 8 April and retires to Melbourne, an enormous amount of corporate knowledge and wisdom will be lost to the Faculty.

"I wish I could plug in a USB cable and download," she says.

Unlike many people, she is not overjoyed at the prospect of giving up work.

"It’s been fabulous," she says, with a hint of a tear in her voice, adding that she started when Emeritus Professor Lou Landau was Dean. "I’ve been so fortunate in working with two outstanding Deans. They combined utter commitment to medical teaching and research with integrity and a real concern for people.

"And I think UWA is a really good university to work at. It is small enough that you can know a whole lot of people across a whole range of areas but big enough that it has a reasonable budget, a good campus…and good research but primarily it is the people."

She also admires the leadership of Vice-Chancellor Professor Alan Robson who, she says, has built up a wonderful culture at UWA by being fair, even, inclusive, decisive, and equitable.

When she looks back, another highlight has been working with Betty Hart, PA to the Dean.

"She is just such a wonderful human being, knowledgeable, efficient, great sense of humour, good fun to work with and someone you can always rely on," Sue says.

"It transformed my life in this Faculty, having her here, because I don’t have a PA and she gives me a lot of support. Ian said that when he took the job, he came with Betty."

The deepest low for her in the past decade is the freak hailstorm that hit Perth last year and destroyed the Faculty office on the QEII campus, resulting in its various sections being housed in disparate locations around the UWA campus and surrounding suburbs.

And the biggest change she has witnessed occurred in 2002 when Professor Robson restructured the university from a myriad of smaller Departments into bigger Schools. "I think that was one of those pivotal moments because it brought that group of School Managers and the Faculty Manager together as a team," she says.

Continued page 9
A former university librarian with a BA (Hons) in history from La Trobe University, Sue was living in England when her husband, John Arfield, accepted the position of UWA University Librarian in 1996. They moved to Perth, where she worked as a corporate services manager for a State government department.

But she was keen to return to university life and was appointed to her current role in December 2000.

Her position description is daunting and begins: “The Faculty Manager, under broad direction and in partnership with the Dean, manages the physical, financial and human resources of the Faculty.”

The key responsibilities include financial and resource management (including managing the Faculty budget), leading and managing the general staff of the Faculty (there are nine Schools, numerous Centres, and about 750 staff), co-ordinating high level IT requirements, marketing and promotion, academic administration, and strategic planning and co-ordination – just to name a few. Four managers report to her.

“The whole job is challenging – it is just lovely,” she says.

Her advice to her successor is to enjoy every minute of the job. “Ten years went by in a flash,” she says.

The main reason she is leaving is that her husband retired last year and they had long planned to make that the time to return to her home town of Melbourne, where her parents live.

“My parents are in their mid-80s and I want to spend some time with them and re-establish some friendships that I’ve kept going for the 15 years I have been away,” Sue says.

But she says neither she nor her husband is looking forward to her leaving work.

“My husband is living in terror of my retirement because he thinks I will have no-one to organise but him,” she says.

She plans to make the most of all the extra time she will have on embroidery, sewing, knitting, crocheting and growing a garden in “proper” soil (“not sand”).

“When I dig a hole in my garden in Claremont, it is like playing at the beach,” she says.

She and her husband are also keen travellers, readers, and lovers of theatre, chamber music, orchestral music, opera, concerts and film, so there will be more of all those pursuits.

Shortly after I drove to her office for our chat, Sue appeared, lugging a bike up the steep CTEC stairs.

She had just whizzed back from a meeting at the Vice-Chancellery and explained that she rode to appointments when she could.

After the interview, she walked me back to my car. Sadly, she remembered the Faculty had lent me a parking pass. Shame, it could have come in handy. Nothing escapes her memory!

- By Cathy Saunders
In their first foray into scientific research, two new graduates have won a major award at a state conference for a paper relating to pressure ulcers in patients with spinal cord injury.

Marianne Romeo and Vi Nguyen, who started as graduate research assistants in the School of Surgery last year, won the award for best scientific paper at Australian and New Zealand Spinal Cord Society (ANZSCoS) conference in Adelaide in September.

The paper was titled: A novel ultrasound protocol for measuring soft tissues in the buttocks.

Ms Romeo and Ms Nguyen said the conference topics included stem cell treatments, returning to sexual function following a spinal cord injury, and the design of community based rehabilitation programs.

“We felt very fortunate to present alongside leading spinal cord injury researchers from all over the world,” Ms Romeo said.

Their research forms part of a larger international, multi site study - the AusCAN Risk Assessment for Sitting Acquired Pressure Ulcers.

The project is designed to determine the factors that are associated with sitting-acquired pressure ulcers following spinal cord injuries. It is being coordinated by Associate Professor Jillian Swaine and Winthrop Professor Michael Stacey, in the Wound Healing and Occupational Performance Research Group in the School of Surgery.

Anyone interested can join the AusCAN Risk Assessment for SAPUs Facebook page where there will be regular updates on the research.

Helping to heed the warning signs of low blood sugar

Continued from page 2

In a subgroup of 20 adolescent and young adult patients aged 12-21 years, the researchers will study whether the new pump improves their hormone responses and symptoms during hypoglycaemia.

The study, known as the Hypoglycaemia Clamp Study, involves recreating hypoglycaemia through a controlled infusion of insulin and glucose in a laboratory setting.

The trial is a multi-centre study recruiting from Royal Perth, Fremantle, Sir Charles Gairdner, Rockingham Kwinana and Princess Margaret Hospitals.

The researchers have recruited more than half of the 100 patients they require for the study and will continue recruiting until the end of this year.

“It’s a fantastic opportunity for patients to use new technology,” Dr Ly said.

Preliminary reports show that feedback from patients has been positive. “Many patients have opted to continue using the system after the main study period of six months,” Dr Ly said.

But the new technology was expensive for patients, she said. Although private health insurance companies largely cover the cost of the pump and the National Diabetes Services Scheme subsidises consumables, there is no subsidy for the glucose sensors, which cost $70 and need to be replaced every six days. This means that patients have to pay $350 each month for the sensors.

Dr Ly said if the new technology proved effective, the researchers would lobby the Federal government to subsidise the sensors.

The new pump holds hope for the development of an artificial pancreas.

“Ideally, the artificial pancreas would measure your blood glucose level and work out how much insulin you need and give you that amount,” Dr Ly said.

“At the moment, insulin pumps all need to be controlled by the patient who has to tell the pump how much insulin to give and when to give it.”

The researchers received a US$200,000 grant from the Juvenile Diabetes Research Foundation for the study.

Anyone interested in participating in the study can contact Dr Ly on 0403 136 117.

- By Cathy Saunders
They are sad and devastating diseases with no cure. They can occur at birth or develop later in life – and they are being researched by a team at the WA Institute for Medical Research.

They are mitochondrial diseases - which are progressive with a poor prognosis and whose treatment is palliative only.

Dr Aleksandra Filipovska, a biochemist and Laboratory Head of the Centre for Medical Research at WAIMR, said organelles or mitochondria were the “power-houses” of cells that produced more than 95% of the energy required by cells.

They had their own genome, which occasionally could be mutated and cause a multitude of debilitating diseases that can affect the brain, heart, eyes and other organs. They include neurological and muscular disorders, blindness, deafness, diabetes, mental retardation and Leigh’s syndrome.

“But because the organelles are present in every cell in our body, any organ that requires energy is affected if the mitochondria are affected,” Dr Filipovska said. “But the skeletal system and the nervous system are mostly affected.

“The diseases are really horrible and they affect children mostly.”

Babies born with hereditary mitochondrial diseases usually do not reach adulthood.

The diseases were formerly believed to occur in one in 4,000-8,000 people but are now thought to be more common and may occur in one in 200 people.

While mitochondrial diseases are a specific entity and occur as a result of mitochondrial DNA mutation, if the mitochondria are damaged as people age, it can result in diseases in adulthood such as Parkinson’s, Alzheimer’s, Huntington’s and motor neurone disease.

Dr Filipovska said the first important step was to understand how mitochondria worked in a bid to determine how the diseases developed.

“Mitochondria have such a broad role in cell function but we know very little about how they function,” she said.

“What we are trying to do is find target molecules that are affected in these diseases and think about potential therapies and how you can design them, or pinpoint genes that have hotspots for mutations so you can enable (targeted) screening.”

The WAIMR team has already discovered a new protein which regulates gene expression within mitochondria.

“We hope that by finding out the functions of these proteins, we’ll get a better idea of how mitochondria become dysfunctional,” Dr Filipovska said, adding that their work highlighted the importance of basic scientific research.

“There needs to be a lot more emphasis and financial support for understanding basic physiological phenomena at the cellular level before you can go off and find cures,” she said.

In December, she was awarded WAIMR’s top accolade for young researchers, the Marshall Medal, which is named after Nobel prize-winning scientist Winthrop Professor Barry Marshall.

WAIMR Director Professor Peter Klinken said Dr Filipovska had been recognised nationally and internationally for her research.
The overlap between schizophrenia and psychotic symptoms that can occur in the general population under extremely stressful conditions or the influence of psychoactive substances is one of the first projects in the sights of the newly appointed Professor of Psychiatry at Graylands - who originally demurred at the prospect of becoming a psychiatrist.

Professor Nikolaos (Nikos) Stefanis, who will be based at the Centre for Clinical Research in Neuropsychiatry (CCRN) on the Graylands campus, said such psychotic symptoms were “encountered not that infrequently”.

Professor Stefanis plans to combine the findings of CCRN’s internationally-recognised WA Family Study of Schizophrenia and his own Athens-based study of 2000 military recruits on the topic. He has submitted a grant application for the research.

Professor Stefanis said he was keen to better incorporate research in mental health into clinical practice. He was also interested in developing early intervention programs for psychotic disorder that could have a substantial impact on the level of care provided to young first diagnosed patients and their families.

Professor Stefanis, who is also part of the School of Psychiatry and Clinical Neurosciences, said he was looking forward to creating any new necessary structures in the service and to develop strong consortia for research projects.

He was also keen to be part of the team of CCRN’s Director, Winthrop Professor Assen Jablensky, with whom he has worked collaboratively for many years.

Yet Professor Stefanis did not initially plan to pursue the same career. In fact, he thought seriously about not being a psychiatrist at all.

While completing his medical degree in Athens, he “passed through the usual changes”, toying with the idea of taking up endocrinology or even gynaecology, he said.

It wasn’t until the last few years of his medical degree that Professor Stefanis decided that psychiatry was, as he put it, “not so bad after all”.

He can be contacted at CCRN on (08) 9347 6439 or stefanisn@meddent.uwa.edu.au

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. “They intrigue me,” he said.

We will feature one in each issue of MeDeFacts. If you have any bright solutions you would like to share please send them in to the editor at cathy.saunders1@bigpond.com

The second one off the ranks is:

The elderly develop on their skin brown patches, raised pigmented excrescences and seborrhoeal warts. What is the basis for these additions?
Two important periods of delay had been identified. The first was the help-seeking interval, which was the time a patient first developed symptoms and appraised them to the stage they made a decision to seek help.

The second was the diagnostic interval, which spanned the time a patient was referred to a specialist to the time they received a final diagnosis and commencement of treatment.

The delays were identified through interviews with almost 70 people newly-diagnosed with lung, breast, colorectal or prostate cancer and audits of their medical records.

“There were different problems for the four different cancers,” Professor Emery said.

For example, patients with colorectal cancer took a much longer time to seek help after noticing symptoms than people with breast cancer.

“That may be because they (the symptoms) were incorrectly attributed to more common benign causes of rectal bleeding, such as haemorrhoids,” Professor Emery said. Some bowel cancer patients also overlooked the importance of other symptoms such as weight loss.

In contrast, patients with breast cancer reported a short interval between picking up symptoms and going to a GP or emergency department.

Professor Emery said this could be because of the longer tradition of breast awareness campaigns.

Many patients with lung cancer also delayed seeking a doctor’s appointment. “They were nearly all smokers and many had normalised coughing and other respiratory symptoms,” Professor Emery said.

When they were interviewed in depth, most said they did not think they had any problems with their lungs or breathing. This was despite the fact that some had developed emphysema.

There were also problems accessing diagnostic investigations for some types of cancer.

For example, there were sometimes long delays between the GP referral and the transrectal ultrasound (TRUS) biopsy for patients suspected of having prostate cancer.

There were also delays in accessing colonoscopies for some patients later found to have colorectal cancer.

“There was a much shorter diagnostic interval from a breast lump to final diagnosis,” Professor Emery said. This was possibly because of the “one-stop clinics” for breast cancer assessment, he said.

The researchers are discussing new service models with the WA Health Department and WA Cancer and Palliative Care Network to streamline services providing TRUS biopsies for rural patients suspected of having prostate cancer, and to improve access to colonoscopies for those patients who are most likely to have bowel cancer.

In the RCT, specific regions in WA will receive the community intervention to raise awareness about specific cancer symptoms while other regions will act as the control community. Half of the general practices in the trial areas will receive additional evidence-based information on cancer-related symptoms and new diagnostic services and half will continue with standard practice.

“We will monitor patients and measure symptom appraisal and diagnostic intervals,” Professor Emery said.

The aim is to capture data on more than 800 patients over two years of the intervention.

- By Cathy Saunders

Unplugging the bottlenecks of care for cancer patients

Continued from page 1

Our medical quiz is kindly supplied by Emeritus Professor Bernard Catchpole, the second Professor of Surgery appointed to the Faculty.

Questions:

With what were the following people associated?

1. Ernst Chain?
2. Godfrey Hounsfield?
3. Francis Crick?
4. Hans Adolf Krebs?
5. Jonas Salk?

Answers page 15
MJA InSight

Associate Professor of Ophthalmology Fred Chen, of the Lions Eye Institute, is QAS’s greatest strength: its ability to recognize visual symptoms in patients in the age group at risk of age-related macular degeneration (AMD), which is the commonest cause of blindness in the over-50s.

“Often, these patients may complain of trying multiple pairs of reading glasses and not getting anywhere,” he said. “What AMD doesn’t do is cause is red eye or painful eye or headache.”

Associate Professor Chen said GPs should refer any patients aged 50 or over with vague visual symptoms, especially poor night vision, for refraction and dilated fundus examination.

“Anyone with known history of AMD and presenting with distortion and scotoma should go straight to casualty within 24 hours for ophthalmological assessment,” he said.

He was commenting on a US study showing that the number of people with AMD had dropped by almost one-third in 15 years. The study showed a 6.5% prevalence of AMD in the 2005–2008 National Health and Nutrition Examination Surveys (NHANES) of 5553 people aged 40 years and older.

This is about 30% lower than the 9.4% prevalence reported in the 1988–1994 NHANES.

The study authors said the decreasing prevalence of AMD might reflect recent changes in the frequency of smoking and other exposures to retinal damage, physical activity and blood pressure associated with AMD.

Associate Professor Chen said there were no data in Australia on whether AMD prevalence was increasing or decreasing.

Winthrop Professor Catherine Cole, of the Sir Charles Gairdner and Sir Charles Child Health Research Institute, is QAS a US study showing a potential protective link between some common childhood vaccines (Hib, varicella, flu, MMR) and childhood cancers, including acute lymphoblastic leukemia (ALL), is interesting but there are lots of confounders.

“It is difficult to say if the effect is from vaccination, being in a higher social class more likely to vaccinate, or another factor, for example, higher use of periconceptual folate which is shown in some studies to be associated with a lower incidence of ALL,” Professor Cole said.

“There are no Australian data on this so far and no specific vaccines are implicated yet but it is an important area to keep looking in.”

The study in Texas found that children born in counties with higher hepatitis B vaccine coverage had lower odds of all cancers combined and acute lymphoblastic leukemia (ALL) specifically.

There was also a decreased risk of ALL with higher rates of the inactivated poliovirus vaccine and the 4–3–1–3–3 vaccination series, which includes four doses of the diphtheria, tetanus, and acellular pertussis vaccine, and Hib vaccine, but only one dose of the IPV, one dose of the measles, mumps and rubella vaccine, three doses of the Haemophilus influenzae type b vaccine, and three doses of the hepatitis B vaccine.

However, children born in counties with MMR vaccine coverage below 95% were over 10 times more likely to have a higher risk of non-Hodgkin lymphoma. A similar positive association between higher Hib vaccine coverage and childhood cancer level county and odds for medulloblastoma also was found.

But children born in public health regions with higher coverage levels of the Hib vaccine had lower odds of ALL.

Winthrop Professor Jon Emery, Professor of General Practice and Head of the School of Primary, Aboriginal and Rural Health Care, is QAS quality use of medicines is an important issue and the federal government should look at ways to promote Australian medicines handbook (AMHi), freerly, or at very least more cheaply, available to all GPs.

He was one of several medical leaders who said electronic prescribing resources for doctors should be updated and regularly reviewed. He said the federal government puts more emphasis on e-health initiatives.

They were commenting on a study reported in Family Practice showing that at GPs’ use of electronic information sources and computerized clinical decision support systems (CDSSs) for prescribing.

The results showed experienced GPs used only a small number of electronic resources and accessed them infrequently. Cost was a barrier, with some GPs having outdated or few resources because of the price.

Winthrop Professor Geoff Riley, Head of The Rural Clinical School of WA and former Head of the School of Psychiatry and Clinical Neurosciences, is QAS if a doctor suspects a colleague is suffering burnout, they should approach the person directly and raise the subject.

If the doctor felt too junior, they should raise it with another doctor who was a peer of, or senior to, the colleague, he said.

Professor Riley said burnout could also be the result of something else going on in a person’s life, such as a break-up, at home or in the marriage, increased use of alcohol, or the emergence of depression.

“What do you do about that?” he said. “The same - either you, or someone else, needs to broach the topic directly with the individual.”

Professor Riley was commenting on a US study in the Archives of Surgery of about 7900 American surgeons that found more women than men surgeons had burnout and depressive symptoms although there was no difference in hours worked or number of nights on call.

The study found factors independently associated with burnout included recent experience of a work-home conflict, resolving the most recent conflict in favour of work, and the number of hours worked per week.

In the same article, Winthrop Professor Chrystol Saunders, Deputy Head of the School of Surgery and Clinical Training and Evaluation Centre (CTEC) is QAS was commenting on the ABS GP work survey, which looked at GPs’ use of electronic information sources and CDSSs for prescribing.

Female generation X surgeons in Australia probably did not feel they experienced more work-home conflicts than their male colleagues because both had similar desires for lifestyle options.

However, women surgeons generally had a unique position at home due to both child rearing and domestic responsibilities, Professor Saunders said.

Winthrop Professor Jeff Hamdorf, Head of the School of Surgery and Director of the Clinical Training and Evaluation Centre (CTEC) is QAS was commenting on the ABS GP work survey, which suggested that RYGB is often done as a salvage procedure rather than a primary procedure.

He was commenting on a US study in the Archives of Surgery which suggested that RYGB is superior to laparoscopic adjustable gastric banding (LAGB) for weight loss and control of type 2 diabetes.

“The Americans just can’t seem to get results with LAGB which matches Australian groups,” Professor Hamdorf said.

The West Australian

Clinical Professor Graeme Hankey, of the School of Medicine and Pharmacology, is QAS people who take common painkillers at high doses should seek medical advice after research found they increase the risk of heart attacks and strokes.

An analysis of 31 trials found a range of non-steroidal anti-inflammatory drugs (NSAIDs) increased the risk of heart attacks or strokes in 116,429 patients. Ibuprofen was associated with the highest risk of a stroke, with more than treble the risk, while rofecoxib was associated with a two-fold increase in the risk of a heart attack.

The Swiss research team said there was little evidence to suggest any of the investigated drugs - naproxen, ibuprofen, diclofenac, celecoxib, etoricoxib, rofecoxib, lumiracoxib - were safe in cardiovascular terms.

Professor Hankey said the trial findings, which were published in the British Medical Journal, were valid and sobering.

He advised people taking NSAIDs to relieve conditions such as arthritis to see their doctor with a view to changing to a safer drug or not taking painkillers at all.

Clinical Professor Peter Thompson, of the School of Medicine and Pharmacology, is QAS people generally are becoming more aware of the risks with high cholesterol.

“We’re doing much better than we were 20 years ago,” he said.

“But there is a warning that all is not well with cholesterol and it’s still a concern that one-third of people are not in the optimum range.”

He was commenting on a study by Melbourne’s Baker IDI Heart and Diabetes Institute which tracked 200,000 GP patient records over five years and found 37 per cent of patients had cholesterol above recommended levels, putting them at risk of heart attacks and strokes.

“It’s good for people to know their cholesterol numbers because once they know they can be reassured or, if it’s abnormally high, they can discuss it with their doctor to find out what their own target should be,” Professor Thompson said.

The study was funded by the pharmaceutical company AstraZeneca.

Dr Melissa O’Donnell, of the Telethon Institute for Child Health Research, is QAS that TioHR research showed the numbers of drug-addicted babies born in WA hospitals rose more than a quarter last year. A total of 86 babies were born with serious withdrawal symptoms in the 12 months to July 2010, compared with 67 the previous year.

The number of pregnant women who were treated for a serious drug or alcohol addiction at the State’s main maternity hospital has jumped 37 per cent since 2006. About 8 per cent of the 5000-odd women who gave birth at King Edward Memorial Hospital in the past financial year were identified as having a problem with drugs, alcohol or both.

Dr O’Donnell said many women had drug-dependent babies who had pre-existing mental health problems which made it harder for them to stop using drugs.

Those women were at high risk of having their child removed from them and therefore some were reluctant to admit they had a problem.

She said drug-addicted babies could suffer from respiratory problems, high-pitched crying, tremors and low birth weight.
Continued from page 1

MDMA causes euphoria and other psychological effects, which make it liable to abuse and illegal dealing. Associate Professor Piggott decided to examine whether the beneficial activity of MDMA could be retained while removing its psychoactivity.

He and his Honours student, Keith Wagg, designed and synthesised a number of analogues of MDMA and, through a Canadian collaboration, assessed their ability to ameliorate dyskinesia.

“One compound, in particular – we call it UWA-101 – can significantly reduce dyskinesia in an advanced animal model of Parkinson’s disease,” Associate Professor Piggott said. “It also extends the effective duration of the levodopa – by up to 30%. If translated to a medicine, this would mean that patients could take their PD medication less frequently, and get a better quality result from it.”

Psychopharmacologist Professor Mathew Martin-Iverson, and his Honours and PhD students, David Tindiglia and Zak Millar, of the School of Medicine and Pharmacology in the Faculty of Medicine, Dentistry and Health Sciences, played a crucial role in the research, showing that, unlike MDMA, UWA-101 is unlikely to be psychoactive.

The research groups of Associate Professor Piggott and Professor Martin-Iverson have also teamed up to discover drug leads for one of the most aggressive forms of cancer - Burkitt's lymphoma. Burkitt’s lymphoma is very rare in the Western World but is the major childhood cancer in Africa, where it affects 25,000–100,000 people per year. The incidence is increasing because of higher susceptibility associated with HIV infection.

“It commonly manifests as horrific facial tumours, which can double in size in one day, and are rapidly fatal if untreated,” Associate Professor Piggott said. “It really is a horrible disease.

“The drugs currently used to treat Burkitt’s lymphoma require frequent hospitalisation and are too expensive for poor Africans.”

MDMA was shown originally in 2005 to kill Burkitt’s lymphoma cells but the potency is very weak. Associate Professor Piggott and two PhD students in his research group, Katie Lewis and Michael Gandy, have since synthesised a number of MDMA analogues and several have been shown to be almost 100 times more potent against Burkitt’s lymphoma than MDMA. Professor Martin-Iverson’s group has shown that these compounds are very unlikely to be psychoactive.

Professor Martin-Iverson said MDMA was also being trialled as a treatment for post-traumatic stress disorder.

Associate Professor Piggott said the drug’s ability to allow people to open up and talk about their problems might prove useful in this context. “But there are some concerns about the neurotoxicity of MDMA,” he said. “The evidence suggests that it destroys certain types of neurons in the brain. Fortunately, the initial indications are that our MDMA analogues don’t share this type of toxicity.”

Answers to the quiz on page 13

1. Extraction or characterisation of penicillin, lysozyme and snake venom enzymes.
2. Development of the computerised axial tomography (CAT) scanner.
3. Elucidation of the structure of the DNA molecule.
4. The chemistry of cellular energy production - the tricarboxylic acid cycle, also known as the citric acid cycle.
5. Production of the killed poliomyelitis virus vaccine.
Research into diabetic foot disease, particularly diabetic foot ulcer management and outcomes, is in the sights of a podiatrist who is the first Doctor of Podiatry student in the Faculty.

Mendel Baba, who was recently elected president of the Postgraduate Students’ Association (PSA), said that according to the International Consensus on the Diabetic Foot, lower limb amputations as a result of diabetic foot disease resulted in prolonged hospitalisation, rehabilitation and increased need for home care and social services.

“In light of this personal, social and economic burden, the provision of podiatric services and ongoing research are critical,” she said.

“Podiatry plays a significant role in the medical management of a variety of chronic health problems and podiatrists make a key contribution to the care of Australia’s ageing population.”

Ms Baba, a UWA graduate who has a Bachelor of Podiatry (Honours) from La Trobe University in Melbourne, returned to Perth last year to start her postgraduate studies in podiatry at UWA. She chose to study podiatry because she was interested in working in a clinical allied health discipline.

“UWA offered an opportunity to continue my tertiary education with its new postgraduate course,” she said. Other postgraduate courses in podiatry offered by the Faculty include the Doctor of Clinical Podiatry and Master of Podiatric Medicine.

“When I began my studies at UWA, the PSA offered a supportive and welcoming group that fostered a sense of community and friendship among postgraduate students,” Ms Baba said.

“Upon enrolment, every postgraduate student is automatically a member of the PSA. It is a department of the UWA Guild and postgraduates can access Guild advocates if they find themselves in need of advice or representation.”

Anyone interested in finding out more, joining the PSA or being added to the mailing list for PSA events can go to www.psa.guild.uwa.edu.au