A monthly review of news and events at the University of Newcastle • ISSN 1032-2272 • November/December 2005

A grand challenge

Students from St. Mary's High School at Gateshead in Newcastle took out the National Grand Challenge in this year's Science and Engineering Challenge.

The St. Mary's students won with the highest score ever achieved in the Challenge, and in a thrilling finish, won six of the eight activities on the day.

Director of Challenge Operations, Mr Bob Nelson said the two days of intense competition showed that high school students have a very strong interest in science, maths and engineering.

"Some of the innovations and solutions the teams developed were amazing," Bob said. "Logic and knowledge certainly played their part, however imagination, team work and sheer inventiveness proved to be the edge that the winning team used to their advantage."

Mr Nelson says the schools are incredibly competitive. He explained that because this was the first National Grand Challenge there was a big build up for the schools that competed.

"Each school has a different way they approach the Challenge. Some trained like a football team would, some nominated students as specialists in strategy, construction and communication, others waited to see how it panned out on the day and thought on the run. It was different in every case. When you see 15 and 16 year olds solving highly complex problems and coming up with solutions to out think and outwit their rivals, you know that the future of maths, science and engineering is on a solid footing."

"The Challenge not only called on the students' knowledge and problem solving skills, but brought out the best in them in terms of communication and interpersonal skills as well as teamwork."

"It's a wonderful thing to see the excitement, and the level of commitment and concentration in the teams competing. The other wonderful thing is to see the level of maturity, clarity of thinking and respect for their team members that the competition engenders. These young people are quite amazing."

Approximately 10,000 high school students from across Australia competed in the Challenge series this year.

"The Science and Engineering Challenge is supported nationally by the Federal Government."

"The Science and Engineering Challenge is supported nationally by the Federal Government's 'Living in Harmony' initiative."

A program to promote community harmony will be undertaken by the University of Newcastle as a result of a $50,000 grant funded through the Federal Government's 'Living in Harmony' initiative.

"The grant will allow us to develop two resource packages which will encourage cross cultural awareness in our community," explained the University's Community Projects Manager, Ruth Gracie. "The University is ideally placed to promote community acceptance, understanding and valuing of all cultures given the large number of international students who come to the University each year. We are fortunate to have such a diverse cultural and linguistic community at the University - it's a microcosm of the world."

The program's initial undertaking will be a media resource package that will be developed around the themes of cross cultural awareness and communication. There will be a summarised version, providing 'quick tips' for local business people, local government employees, professionals in the fields of health and education as well as volunteers who may be preparing to work with international students, refugees or migrants.

The second, more comprehensive version of the resource will be designed to be used in workshops and training sessions. Once the resource has been piloted locally it is anticipated that it will be distributed to areas beyond the Hunter.

Skills and expertise from across the University will be used in the project. The Learning Production Unit's Network for Innovation in Teaching and Learning will be involved in the production of the resource, the Family Action Centre will contribute its expertise in developing distribution processes and Community Projects will provide project management experience.

The project has the support of the Migrant Resource Centre, local councils, the Hunter Business Chamber and Stockland Jesmond management.

Living in harmony
Throughout the year, there has been pain and distress associated with the planned loss of more than four hundred staff from the University and the inconvenience and frustration as new organisational structures and electronic systems have been implemented.

The environment for Australian higher education generally has also been challenging. Debate about the nature and governance of our universities, new schemes to recognise and reward teaching and research performance, the changed landscape of workplace relations with the rise of significant Commonwealth funding to local introduction of reforms, inadequate indexation of Commonwealth grants and uncertainty in international student recruitment and voluntary student vaccination. And while the likely outcomes of these changes are clearer now than they were at the beginning of the year, much uncertainty remains.

It is not a year that any of us wish to go through again. I would like to thank, once again, the many hundreds of staff and students who have worked so hard to keep our teaching, research and administrative activities on track this year despite the turmoil around them. Thanks also to our alumni and our many supporters in business and industry who have shown words of encouragement and support.

The efforts of staff and students this year have led to excellent outcomes in 2005. Let's not overlook them! For example:

- Just before Christmas, Raph Grubišić and Dr Geoff MacFarlane were recognised for their outstanding teaching contributions, with the presentation of the 2005 Quality Teaching Awards by the NSW Minister for Education and Training and the Australian College of Educators;
- The remarkable research contributions made by Professor Ganneng Jia and Professor John Aitken over many years were acknowledged by awarding them our first Laureate Professorships;
- The University climbed about 20 places in the Shanghai Jiao Tong University’s respected international ranking system to number 352 in the world, up from number 400, and is now ranked in the top 500 universities at number 127;
- Research funding is projected to total $58 million in 2005, up about 10 per cent on 2004’s outstanding result. This funding includes generous industry support from local groups such as Ampcontrol (which has supported a new established Chair in Power Engineering), Hydro Aluminium (which supports a new groundwater remediation research centre), Hunter Water (which contributes to the support of Chair in Water Engineering) and McClellan (which provided $3 million through TINRA for research in urban development) and many others;
- The Science and Engineering Challenge continued its expansion with more than three hundred schools and ten thousand students involved in 2005;
- The opening of new teaching facilities for our health professional programs in Tamworth and Port Macquarie; and
- The award just a week or so ago of the Business Higher Education Round Table (BHER) prize for ‘best research and development collaboration’ to Associate Professor Kevin Gablin and his team in the School of Engineering and Ludovic NPE.

The prospects for 2006 are strong. The serious financial difficulties faced by the University have been brought under control and are well on the way to resolution. Outstanding people have been recruited to Deputy Vice-Chancellor positions (Academic and Research) and Pro Vice-Chancellor positions in Business and Law and Engineering and Built Environment. They arrive in February—March next year and see great opportunity ahead. Our Australian Research Council funding for research is strong with room for further improvement. Investment is occurring to support teaching activities and to help improve the quality of our students’ experiences. Community partnerships and activities will be strengthened through the new office of Corporate Development and Community Partnerships.

Once again, I’d like to thank you all for your commitment to the University. I hope you have an enjoyable holiday break. A much better year awaits us.

Nicholas Saunders

More than $335,000 raised from corporate and community support was awarded to the region’s best health and medical researchers at the Hunter Medical Research Institute Annual Awards Night at Newcastle City Hall on 9 November.

The major award winners were:

- Laureate Professor John Aitken (HMRI award for Research Excellence sponsored by Sparkle Helmore/NBN TV Corporation Triathlon)
- Dr Peter Work (HMRI Early Career Medical Researcher of the Year sponsored by POLJUS)
- Dr Jude Simpson (POLJUS Education Prize)

In addition, 20 HMRI grants were awarded to fund research in projects as diverse as the health and wellbeing of victims of trauma, childhood cancer, premature birth, Parkinson’s disease, anxiety disorders and women with arthritis and schizophrenia.

HMRI Executive Director Professor John Rostas said HMRI’s project grants and awards are a catalyst for success in obtaining highly competitive government and industry funding to further the research of our talented researchers.

"Last year, HMRI grants of $90,000 led to research grants of $2 million. This year, we improved our success with funding of $2.6 million from an investment of just $140,000 in project grants").

Professor Rostas said this year’s Grant Round was the largest ever. "Researchers at the University of Newcastle and Hunter Health are benefiting from the generosity of the local community, which believes in health and medical research in this region," Professor Rostas said. "Not only are we distributing a record amount of funds, we have been able to invest funds for future research infrastructure.”

Full details about award winners and grant recipients are listed on the web at www.hmri.net.au
Newcastle, partner in global minerals research program

The University of Newcastle will be part of a global research program to find radical new ways of extracting minerals from the earth.

The research program, the Australian Mineral Science Research Institute (AMSR), was announced by the Federal Minister for Education, Science and Training, Dr Brendan Nelson at the Australian Research Council (ARC) funding announcement in November. In total $8.4 million, over five years, was awarded to this collaborative project.

In one of the biggest developments in the mining and minerals industry since Australia discovered the flotation process more than 100 years ago, the program will explore highly experimental new science to develop more efficient and low-impact ways of mining minerals such as zinc, copper, coal, platinum and titanium.

The research program will bring together world-class teams across Australia to focus on the science of the interactions between particles, bubbles and fluids.

The research program, believed to be the biggest of its kind in the world, involves:

* • a global network of 24 collaborating organisations
* • a team of top Australian and international scientists in physics, chemistry, engineering, bioscience and earth sciences.

The new Linkage Grant will support a series of fundamental research programs aimed at reducing the long-term use of water and energy in the minerals industry.

"Water is becoming a precious commodity, and the minerals industry is faced with increasing challenges to do more with less," said Laureate Professor Graeme Jameson, who will lead the group working on Innovative Processes at the University of Newcastle. "We'll be investigating new ideas for dry processing that will eliminate the need for water altogether. We'll also be looking at ways to improve the rotation process that is still the workhorse of the industry."

Largest overseas cohort

Students from countries throughout South East Asia, including Singapore, Malaysia, China, India, Hong Kong and Thailand, attended the University of Newcastle's Overseas Graduation Ceremonies in Singapore on 15 October. Over 250 students graduated this year, representing the largest overseas cohort the University has ever had. The significant increase in the number of graduates in South East Asia studying through the University's partner institutions, and particularly those wishing to attend a local graduation ceremony, prompted the scheduling of two graduation ceremonies on the day.

In a first for the University, students presented with a Bachelor of Applied Information Technology were the first to receive this degree through the University's partner in Singapore, PSB Academy.

It was also the first time that Vice-Chancellor, Professor Nick Saunders, has officially attended an overseas graduation ceremony.

"In recent years ceremonies have been held in Hong Kong, Singapore, Seoul and Kuala Lumpur, and although some international graduates attend ceremonies in Australia, the overseas functions enable them to include family members and friends in the celebration of their academic achievements," said Professor Saunders.

Chief Executive Officer of PSB Corporation, Mr Henry Heng, delivered this year's Occasional Address. After completing his schooling in his homeland of Singapore, Mr Heng completed a Bachelor of Science (Civil Engineering) at the University of Birmingham, a Master of Science (Management Science and Operational Research) at the Imperial College of Science and Technology in London and undertook the Stanford Executive Programme at the Stanford University School of Business in 1991.

His appointment to Chief Executive Officer of PSB Corporation in 2001 followed an extensive career which has seen him influence and implement national strategies to upgrade Singapore's workforce through his roles within Manpower Development Division of the Economic Development Board, the National Productivity Board, the Industry and Manpower Group at the Singapore Productivity and Standards Board, and as Divisional Director (Manpower Development) at the Ministry of Manpower.

For his contribution to workforce and SME development in Singapore, Mr Heng was awarded the Public Administration Medal (Bronze) in 1995 and the Public Administration Medal (Silver) in 2001.

University part of the community

According to recent regional surveys, the University of Newcastle is an important part of both the Hunter and Central Coast communities, with 80 per cent of respondents in the Hunter agreeing with the proposition that the University was an important part of their community.

The University commissioned the Hunter Valley Research Foundation to include a question in the Hunter Region and Central Coast Omnibus Surveys conducted in September 2005.

In the Hunter region, female respondents, those aged 65 years or older and respondents not currently in paid work were significantly more likely than others to agree that the University was an important part of the Hunter.

On the Central Coast, the main finding was that respondents not in paid work were significantly more likely to agree with the statement, "The University of Newcastle is an important part of the Central Coast community", compared with those currently in paid work.

The Times HRS rates a series of components to determine the final rankings. These include peer review, recruiter review, research income, overall quality of our research and academic publications.

"I'd like to note that we were well ranked in the credibility area which has a measure of the quality of our research and academic publications," the Vice-Chancellor said.

"The achievements of our graduates to reach very senior positions both within Australia and overseas demonstrate the outstanding quality of our research, teaching, the relevance of our programs and the exceptional skills of our graduates."

"Our overall result is extremely encouraging and bodes well for the future of the University."

"One of our first tasks will be to build up a strong team of researchers. There are many opportunities for high-level technical staff in the resources industries, and we expect our PhD graduates will readily find good positions."

Largest overseas cohort

Top 200 world ranking for Newcastle

For the first time, the University of Newcastle has been ranked in the Times Higher Education Supplement (HES) Top 200 universities in the world.

"Only 17 of the 38 Australian universities are ranked within this year's Times HES Top 200," said Laureate Professor Graeme Jameson, who will lead the group working on Innovative Processes at the University of Newcastle. "It is an indication of just how far the University has come in the last 40 years," Vice-Chancellor, Professor Nick Saunders said.

"It is a real demonstration of our international standing and places us in close proximity to the ranking of many other well­known institutions."

Other universities which are ranked at around the same level as Newcastle include Dartmouth College, Michigan State University, the University of Southern California, Trinity College Dublin, Gottingen University and Chulalongkorn University in Thailand.
“The University will be a centre of learning, not for this
generation only, but for many generations to come.
Its influence will increase with the passing of time.”

The Herald, 3 October 1942, reproduced in "Looking Back A History of the University of Newcastle" by Don Wright, 1992.
Almost 400 people attended the 40th Anniversary Dinner held at the Brennan Room in the Shortland Union on 24 September.

Guests were entertained throughout the evening by our alumni including the hilarious Jonathan Biggins as Master of Ceremonies and talented musicians from Animato string quartet and the University of Newcastle Chamber Choir.

Former NUSA President, Michael Nelson, spoke about the beginnings of the University and delivered grace in Latin, whilst chemical engineering student, Tania Ritchie provided a contrasting account of her own experiences as a current student. The brightness and vibrancy of the University's academic culture and community partnerships were highlighted by Vice-Chancellor and President, Professor Nick Saunders, and also by Lord Mayor John Tate who toasted the institution's future.

Dr Bernie Curran, who closed the evening, recalled many of the University's characters and also recognized the fitting coincidence that the dinner celebrations fell on the birthday of the infamous and much-loved Emeritus Professor Godfrey Tanner.

The event was considered a huge success and special thanks must go to the table sponsors of the night: Bradken, Boeing, Hunter Area Consultative Committee, NUSport, TUNRA and UNU.
Students achieving great things

Disability Network Media Award

Competitions timed well to social movements, media portrayals of people with disabilities.

According to Lecturer in Visual Communication students under the guidance of lecturer Roger Dunstan, have been involved in designing posters for Mental Health Australia, Professor McConkey also has extensive experience in designing posters for physical sciences who has a fascination for science fiction short stories.

People’s choice

Over the past few years, third year Visual Communication students under the guidance of lecturer Roger Dunstan, have been involved in designing posters for Mental Health Australia, Professor McConkey also has extensive experience in designing posters for physical sciences who has a fascination for science fiction short stories.

The inspiration for Hannah’s poster came from chatting to a young Sudanese man who told her about the struggles faced by the refugees she saw when visiting to a new country.

Hannah received the People’s Choice award at the annual exhibition at Christchurch Cathedral for Amnesty International. So well received was the poster by the community that the decision was then taken to present the poster to then Minister for Citizenship, the Hon Peter McGauran, when he officially launched the Migrant Resource Centre website on 30 June 2006.

Science plus fiction

David Cotton is a multi-dimensional postgraduate research student in the University’s School of Mathematical and Physical Sciences who has a fascination for physics and also for science fiction short stories.

Not only does he write his own science fiction short stories but this year David organized a national science fiction short story competition as part of the International Year of Physics and was amazed when his entry from South Australia, Victoria and Queensland as well as Sydney and Newcastle.

“I’m passionate about science fiction and its ability to get the general public thinking about science,” David said. “Science plays an important role in shaping our future as a society and yet research science is becoming increasingly difficult for non-scientists to grasp. As writers of this genre, we have an increasingly important role to play in bringing science to the public.”

“It is through science fiction that most people can grasp at the beauty and power of science research, marvel at what technology might bring and consider implications, future and negative—and form judgements.”

International award for student

Recently, a student from the School of Design, Communication and Information Technology, Mr Lingyu Duan, participated in a global competition in Video Retrieval Evaluation run by the National Institute of Standards and Technology (which is the top international agent for research on video standards). The University of Newcastle was ranked at seven, Carnegie Mellon University was ranked number one, and the National Information Communication Technology Australia (a pure research organisation parallel to the CSIRO) was ranked number 13.

University appoints leaders

Appointees to four high level positions within the University of Newcastle have recently been announced.

Professor Kevin McGourty will join the University of Newcastle as Deputy Vice-Chancellor (Academic) in February 2006. He is currently Professor of Psychology at the University of New South Wales (UNSW). Prior to this he held the position of President of the Academic Board at UNSW for five years. A distinguished scholar in the field of psychology, Professor McGourty completed a Bachelor of Arts with Honours in Psychology and a Doctor of Philosophy in Psychology at the University of Queensland.

With 25 years experience in teaching and research across Canada, America and Australia, Professor McGourty is a Fellow of the Australian Academy of Social Sciences, the American Psychological Association, the Australian Psychological Society and the Australian Society of Hypnosis.

He is the author of an extensive range of books, book chapters, journal articles and conference presentations and the recent winner of the prestigious Bernard Rigas Memorial Award for leadership and achievement in clinical and experimental hypnosis.

Whilst President of the Academic Board at UNSW he was a University Council member and member of various University and Council and Academic Board committees; a member of the Senior Management Group and Vice-Chancellor (University Committee) and a Fellow of a committee external to the University including the NSW Board of Studies, the NSW Vocational Education and Training Advisory Committee; and was Chair of the Committee of Chairs of Academic Boards/Senates in NSW and the ACT from 2001 – 2004.

Professor Bryan Glover will join the University of Newcastle as Deputy Vice-Chancellor (Research) in February 2006. Professor Glover is currently Pro Vice-Chancellor, Research and Development at Curtin University of Technology. Prior to this Professor Glover was the Director of Research and Development at Curtin University of Technology for six years.

Professor Glover holds a Bachelor of Science (Honours), a Diploma of Education, a Master of Science and a Doctor of Philosophy from the University of Melbourne. He has a strong research record and is author or co-author of over 70 research publications in Applied Mathematics.

Professor Glover also has extensive industry networks and holds a number of corporate appointments including board membership of the Australian Biosecurity Cooperative Research Centre, the John Curtin Institute for Public Policy and the Cooperative Research Centre for Sustainable Development to name a few.

He is a Professorial Fellow with the Western Australian Centre of Excellence in Industrial Optimization.

Professor Stephen Nicholas has been appointed to the position of Pro Vice-Chancellor (Business and Law) and will join the University in March 2006. He is currently the Sasakawa Professor of International Business and Head of the Business and Law Research Group at the University of Sydney. Prior to this he held the position of Professor of Economic History and Co-Director of the Australian Centre for International Business at the University of Melbourne.

Honouring Einstein

To celebrate the anniversary of Albert Einstein’s death in 1955, the University of Newcastle announced in October, with the prestigious award to be given to Bachelor of Illustration (Natural History) student, Toni Licciardo.

To commemorate the 30th anniversary of the year Einstein died, the University of Newcastle has commemorated the 30th anniversary of the year Einstein died.

Professor Longair said: “Professor Longair was awarded a number of international prizes for his work on computer simulations based on key experiments related to Einstein’s work. These included measuring the speed of light, demonstrating Brownian motion, and simulating gravitational lenses.”

Dr Paul Dastoor, Physics Lecturer at the University of Newcastle, said that with this packed student audience and the packed student audience, Einstein’s work was understood and was known for its ability to address a young audience with Einstein’s work being popular worldwide recognition.

Professor Longair was a lecturer at the University of Newcastle, Head of the Cavendish Laboratory at the University of Cambridge, and one of the world’s leading experimentalists in high energy astrophysics, and astrophysics.
Forty years of building

Professor Adrian Page is retiring after almost a year as Deputy Vice-Chancellor (Research) and a total of more than 30 years in education and industry worlds of engineering.

After completing school, Adrian gained a cadetship with the Hunter District Water Board to study Civil Engineering part-time at the Newcastle College of the NSW University of Technology (now the University of Newcastle). He was able to articulate into a Bachelor of Engineering once he received his Associate of Sydney Technical College award and then, in 1960, he moved into private industry as a Structural Engineer.

He had, at last, moved, into the field that was to be his for the next forty years and still continues to do so.

His early years in private industry, including three years in Canada, went to engineering for his medical specialty, but he maintained close professional links and an interest in the engineering industry and those within it, bringing industrial connections and partnerships to the University of Newcastle for many years. Adrian joined the University as a junior academic at the end of 1979, recruited from industry to provide expertise in the more applied aspects of structural engineering. He built his academic career from there, completing a PhD part-time and progressively moving up the career ladder culminating in a Chair supported by the clay brick industry in 1991. He is therefore one of the few academics remaining who has taught under every Vice- Chancellor.

"The early days were so different from today. We had just moved to a new site at Shortland. Staff and student numbers were small, everyone pretty well knew everyone and of course the bulk of our funding was provided by government."

"Amongst the engagements of my experiences, I remember the establishment of the University of Newcastle Industry Scholarship Scheme which now offers 100 scholarships through 50 industry sponsors."

Adrian is equally as eminent within the discipline of Mechanical Engineering and Engineering Challenge which he has been involved with as the founding initiative, which is so popular with the school students, continue to grow. He is an acknowledged leader of engineers. The Challenge has been proven to encourage those students who participate to continue studying higher level maths and science in Years 11 and 12.

However, one of his proudest achievements has been the continued outstanding research and teaching performance of the Faculty of Engineering and Built Environment which has enabled it to remain one of the best faculties of its type in the country with an international reputation for its research. During his career, Adrian has seen the growth of the Faculty to what it is today. "This has been achieved by contributions and effective leadership from a number of people. However, in my view, the key factor underpinning this success has been the establishment of recruitment of quality staff at all levels, and particularly our teaching staff. I am equally as proud of the University’s research performance and is confident it will continue to grow and do so as an essential part of the competitive environment. One of the keys to this is the strong contribution that research efforts across the University," Adrian emphasised.

While with Adrian it becomes evident that he is not really retiring at the end of the year. He is adamant that he will take time to work on his golf handicap and to do some more travelling. But he will continue his research into the performance of masonry and masonry structures.

"We have a very active research team, in fact we are the most active research group in this field in Australia and are certainly recognised throughout the world for our applied and fundamental research." In that capacity, the Clay Brick and AAC Association has supported his Chair in Structural Clay Brickwork at the University since 1992 and will continue to do so.

As is evident, in his retirement Professor Adrian Page will continue to be busy. But the Professor it is he to be proud of the realisation of his childhood dream - to build.

Not only did he become a structural engineer and civil engineer; he built an enviable academic reputation, producing some 259 publications in refereed journals and conference proceedings, technical reports and papers; received research funding and grants totalling well over $55 million; helped to build up an extraordinary faculty which is recognised nationally and internationally for its teaching and research strengths; and built programs which benefit not only present scholars but also the students of tomorrow.

In October this year, Adrian was elected as a Fellow of the Australian Academy of Technological Sciences and Engineering for his teaching and research achievements.

Achievements

Award for teaching others to teach
A highly respected teacher from the University of Newcastle is the recipient of a 2005 Quality Teaching Award.

Kathryn Gundersen, Lecturer in Visual Art and Design, received the award from the NSW Minister for Education and Training and the Australian College of Education.

A nationally recognised artist and tapestry designer, Kathryn has spent the past 15 years working at the University of Newcastle.

Kathryn says she was delighted to receive the award which recognizes acclaimed teaching practices.

"It's an even greater honour seeing how rigorously the awards were assessed. It involved workplace visits, interviews with colleagues, students and community members, and the submission of a portfolio," says Kathryn.

Kathryn, who is currently the Retaining Manager for the Faculty of Education and Arts, says the award recognizes her work in relation to the development and continued contribution to the Recognition of Prior Learning (RPL) program.

"This allows people with varied educational experiences, from trade to degree, to use their experience and skills to train to become teachers."

"Successful educators are lifelong learners who have capacities to draw on their experiences and knowledge to equip them as they pass on their skills to others," says Kathryn.

Kathryn has successfully designed and facilitated the program, which has undergone pilot and full scale trials.

"Being a teacher is hard work, and it requires dedication," says Kathryn.

"It is increasingly necessary to recover value from those pollutants in flumes of treated and contaminated water."

"With the trend to commercial separations, including mineral sands and rare earths separations, the requirement to separate different kinds of particles, not only at a higher rate, but also more efficiently."

Professor Dlugogorski. When speaking of the University of Newcastle and its role in the separation technology, known as the Reflux Classifier, is based on an observation first described in a letter to the journal Nature way back in 1920.

"THERE it was noted that the cells in blood took up dyes much more quickly when the tube was slightly tilted." says Professor Dlugogorski.

Some eighty years later it was found that by combining the phenomenon of inclined settling with another technology called fluidization, that the fluidization vessel allows separation of particles into different streams of liquid, and this is a major step forward in the separation of particles into different streams of liquid, and this is a major step forward in the separation technology, known as the Reflux Classifier.

Professor Dlugogorski. When speaking of the University of Newcastle and its role in the separation technology, known as the Reflux Classifier, is based on an observation first described in a letter to the journal Nature way back in 1920.

"THERE it was noted that the cells in blood took up dyes much more quickly when the tube was slightly tilted." says Professor Dlugogorski.

Some eighty years later it was found that by combining the phenomenon of inclined settling with another technology called fluidization, that the fluidization vessel allows separation of particles into different streams of liquid, and this is a major step forward in the separation technology, known as the Reflux Classifier.

"THERE it was noted that the cells in blood took up dyes much more quickly when the tube was slightly tilted." says Professor Dlugogorski.

Some eighty years later it was found that by combining the phenomenon of inclined settling with another technology called fluidization, that the fluidization vessel allows separation of particles into different streams of liquid, and this is a major step forward in the separation technology, known as the Reflux Classifier.

"THERE it was noted that the cells in blood took up dyes much more quickly when the tube was slightly tilted." says Professor Dlugogorski.

Some eighty years later it was found that by combining the phenomenon of inclined settling with another technology called fluidization, that the fluidization vessel allows separation of particles into different streams of liquid, and this is a major step forward in the separation technology, known as the Reflux Classifier.

"THERE it was noted that the cells in blood took up dyes much more quickly when the tube was slightly tilted." says Professor Dlugogorski.
Texting technology

A University of Newcastle study exploring new "real time" mobile text communication technologies in the lives of people who are deaf, or have a hearing or speech impairment has highlighted the different needs of user groups and argues for improvements.

Professor Patricia Gillard from the University’s Faculty of Business and Law says the study has shown that there are many improvements and customisations that could make the mobile text communication equipment more useful across all of the disability groups involved and for many others in the community.

"Currently, when people with hearing or speech impairments, or deaf people need to make a phone call, they can access telephone typewriter services (TTYs) and the National Relay Service (NRS)," explained Patricia. "While TTY services are very useful, they have disadvantages primarily because they are fixed devices. SMS is a popular alternative to TTYs, but it does not provide "real time" communication as senders cannot be sure when messages will be checked."

Patricia says a normal task like making an appointment may take several attempts when using a TTY because people need to know that messages have been received. People with speech impairments may have to lift and hold a handset, to see and manipulate the keypad accurately are all vital issues."

The research highlighted the need in Australia for the development of mobile text communication software that is able to be used on any mobile text communication device, regardless of the carrier and mobile handset provider.

The results of the study should speed the development of mobile text technology in Australia and enhance the communication of those who cannot easily use mobile phones in their day-to-day activities.

The study was supported by a grant from Optus and with assistance from the Australian Communications and Media Authority as well as a Community Reference Group comprising representatives from the deaf, hearing impaired and speech impaired communities.

A Fijian partnership

Representatives from the University of Newcastle and Fiji Institute of Technology have signed a memorandum of understanding (MoU) which will guide the delivery of Technical Vocational Education and Training (TVET) in Fiji.

The MoU will see the Fiji Institute of Technology form a partnership with the University of Newcastle to provide TVET teacher training for staff in the Fiji Institute of Technology as well as the Ministry of Education and other interested staff on the Islands.

Sandra Sinaich, Deputy Executive Dean in the Faculty of Education at the University of Newcastle, says "Fiji is an important part of this MoU it is that as with students in Australia, this degree recognises the previous training, work experience and other completed studies through a process of "recognition of prior learning.""

"In considering this experience and previous study, students are able to reduce the period of study," says Viliame. The partnership and the in country agency agreement will build on the University of Newcastle’s existing presence in the Pacific region and will advance the already important role played by the Fiji Institute of Technology in providing TVET.

Fulbright scholar looks for balance in brain research

World leading research by UQ researchers at the University of Newcastle has attracted a prestigious Fulbright Scholarship which will see a twelve month postdoctoral stay at the University researching the balance disorder, Meniere's disease.

Elizabeth LaMont, a graduate of Washington University in St. Louis, will work with Dr Alan Brichta from the University of Newcastle’s Faculty of Health to investigate the possible causes of Meniere’s disease.

"Meniere’s disease is thought to originate in the inner ear and people can suffer from partial or complete hearing loss, vertigo and dizziness," says Elizabeth. "These symptoms can result in an inability to perform simple tasks that involve balance and movement."

"The vestibular or balance system controls our sense of equilibrium and influences nearly everything we do," Elizabeth will work with Dr Brichta to examine whether changes in the volume and composition of inner ear fluid (endolymph) stimulate the vestibular system and may be responsible for the symptoms seen in Meniere’s disease. This scholarship has given me the opportunity to work in one of the few vestibular research centres in the world.

"This scholarship has given me the opportunity to work in one of the few vestibular research centres in the world."

"This scholarship has given me the opportunity to work in one of the few vestibular research centres in the world."

ID 05 New Design

14 – 18 December

Work by graduating industrial design students from the University of Newcastle

Curated by Thomas Hordern and Joshua Jeffress

Watt Space
Cnr King and Auckland Streets, Newcastle
Wed – Sun, 12 noon – 6pm