As October turned into November, the Federation of Australian Scientific and Technological Societies (FASTS) held its Science Meets Parliament Day. Extending over the two days of 31 October and 1 November, this is the second time the event has been held.

It was prompted by concerns that parliament, with few politicians having any science background, is remote from the concerns of scientists and inadequately informed of the achievements and potential of Australian science and technology.

Australian scientists have also been accused of being poor at the process of lobbying for their science, setting it at a disadvantage when compared with the interests of other more pro-active groups.

Science Meets Parliament brings scientists and federal politicians together. This year, a number of Adelaide University academics were involved. The Adelaidean's science journalist, Dr Rob Morrison, sought impressions of how the day had gone from Associate Professor Andy Austin and from Mr Toss Gascoigne, CEO of FASTS and organiser of the event.

What was involved?

TG: Our office had to recruit 185 scientists, recruit as many MPs as possible, organise meeting times, match up the two sides, and inform each other of what was happening. We collected brief CVs from scientists, and organised the briefing day, including a televised address by Dr Neal Lane [the Science Adviser to President Bill Clinton] as well as talks by three MPs, two chiefs of staff, the Chief Scientist and so on.

Then there was a cocktail reception for 300 that night. On Wednesday we organised a breakfast venue, issued a series of media releases, put on a media conference at Parliament House that morning, organised morning teas for the Minister. There was also a feedback session at lunch time that day.

AA: It was most impressive. I thought it was successful for several reasons. One was the recent Batterham report, *A Chance to Change*, which argues for better treatment of R&D in Australia and which will go to cabinet. Rather than general statements, this report includes a series of hard-nosed recommendations, such as doubling the ARC funds, improving university research infrastructure, developing career

ks by three or 300 that

Academic Structures Review

One of the most encouraging things to emerge so far from the Review of Academic Structures has been the high quality of responses it has drawn from the University community. Across the diversity of staff and student submissions there have been serious and thoughtful analyses of the major issues at stake, reflecting a broad level of engagement with the challenge that restructuring confronts us with. In this, the work of the Academic Structures Working Party has been exemplary, I think, in the degree to which it has sought to elicit and respond to the views of the University's many stakeholders, through the round of formal submissions, through its two public forums, and most recently through the release of its interim report. The Discussion Paper, which outlines general principles for change and a number of possible structural models, is intended to give rise to a further round of feedback, suggestions and debate.

The Discussion Paper reflects a broad consensus about what the goals of restructuring might be: the breakdown of barriers between departments caused by internal competition; the further development of funding models which facilitate cooperation across departments and faculties in both teaching and research; the development of more flexible student pathways through our academic programs; the reduction of administrative loads on academic staff; and a need to develop the structural flexibility to allow us to respond quickly to changes in the broader environments in which we work.

Of course there is no perfect organisational structure that will deliver everything we desire, and the new structure, whatever it looks like, won't suit everyone equally. The process of restructuring is not easy, and in an organisation as large and complex as ours, one has to expect a degree of cynicism about change, and a loyalty to the (always changing) status quo, along with its problems and the ad hoc adjustments that they demand.

However, the Academic Structures Review was

Cleaner, clearer water sought in research project

AN ADELAIDE University student has helped evaluate a new method of removing natural organic contamination from River Murray water, which has the potential to significantly improve the quality of Adelaide and country water supplies.

Suzanne Schwarz, who has just completed a Chemical Engineering degree and will commence work as a process engineer with Esso in Melbourne next year, investigated the new method of removing dissolved organic carbon (DOC) from drinking water sources such as the Murray as part of her final-year research studies.

"DOC occurs naturally in most water supplies when decomposing organic matter from leaves and wood wash into water reservoirs, lakes and rivers," Ms Schwarz said.

"It can produce an unpalatable taste and odour in water even after conventional treatment by filtration. DOC may also generate chlorinated organic compounds, some of which are suspected to be potentially carcinogenic, when it reacts with chlorine used to disinfect our drinking water supplies."

Her research was based on a new process for DOC removal developed by SA Water in conjunction with Orica Watercare and CSIRO. This process uses specially manufactured magnetic ion exchange (MIEX) resin particles that absorb the dissolved organic carbon present in the water, and which then clump together magnetically for easy removal in what's known as a "settler".

SA Water is currently building a $7.5 million water treatment plant at Mount Pleasant that will incorporate the MIEX process. The plant is expected to commence operation by April 2001 and will supply drinking water to Adelaide Hills residents at Mt Pleasant, Eden Valley and Springton.

"A problem with the current MIEX process is that the settler cannot be easily scaled up to suit larger water treatment plants," Ms Schwarz said. "I investigated whether a locally developed filtration technology, known as a Baleen Filter, could be used in the process instead of a settler."

The Baleen Filter is an automated self-cleaning filter that was invented at UniSA by a former Adelaide University graduate, Mr Yuri Obst. It recently won the Institution of Engineers, Australia's Eureka Award for engineering innovation.

"An advantage of replacing the settler with a Baleen Filter is that conventional and less expensive ion exchange resins (in place of MIEX resin) could also be used in the process," Ms Schwarz said.

"I found that at the moment, the particle size of conventional resins is too big compared with MIEX, but if decreased in size, which is quite possible, then a conventional resin and Baleen filter could be as effective for removing DOC than MIEX resin and a settler. However, the conventional resin would have to be at least a couple of dollars per litre cheaper than the MIEX resin for this to be more cost efficient.

"The next step is to build a trial plant to test the Baleen filter's performance for separating MIEX and conventional resins. As part of my studies this year I designed a pilot plant which would do that, so hopefully the next person can come along and build on the research I've already done by getting the pilot plant up and running and obtaining some more data about the Baleen filter."

Chemical Engineering student Suzanne Schwarz. Photo: Ben Osborne.

Mr Geoff Kilmore, who was Ms Schwarz's project supervisor at SA Water, said her research has helped SA Water discover new options for improving the quality of metropolitan and regional water supplies in South Australia.

"We hope that this research can be continued next year in association with Adelaide University," he said.

—Ben Osborne

Our new biodiversity centre off to a strong start

AIMS by a new teaching and research centre to become a national and international leader in its field may be ambitious, but they are quickly being realised.

The Centre for Evolutionary Biology and Biodiversity was officially launched last month at Adelaide University. The Centre is a joint initiative between the University, the South Australian Museum and the Plant Biodiversity Centre of the Department of Environment and Heritage. Its goal is to become a leader in evolutionary biology and biodiversity studies, with an emphasis on Australia's fauna and flora.

The Centre's partners have between them secured six large ARC grants and three SPIRT grants in the latest round, which was announced earlier this month. The research projects include several in which members of the Centre are already collaborating.

The Centre's Director, Associate Professor Andy Austin, said he saw this as an excellent start to a much closer working relationship between the partners in the future, and one that will encourage new projects and initiatives. He expected these to develop in a number of ways.

"We are very interested in the evolution of relationships between parasitic insects and their hosts," said Dr Austin.

"Insect parasites are extremely diverse, and many feed on other insects. This makes it an interesting area in terms of biodiversity and, since parasitic insects are often used in biological controls, it has applications there."

The Centre will extend that work to study other parasitic invertebrates and micro-organisms.

Dr Austin also believed that the Centre would contribute a great deal to the understanding of how Australian flora and fauna have evolved.

"The current ARC grants, including those at the Museum, cover projects as diverse as subterranean fauna from Western Australian aquifers, threatened desert fauna and DNA fingerprinting of endangered pythons," he said.

The Centre is also working with other universities on zoological studies, and with the Royal Zoological Society of SA to develop a cross-fostering model for endangered species.

The Centre will move quickly to strengthen its national and international links. It plans to introduce workshops to develop expertise among researchers, and a seminar series in which distinguished visitors will speak on aspects of evolutionary biology and biodiversity.

The Centre will also host conferences. The first of these will be the 5th Invertebrate Biodiversity and Conservation Conference, to be held in Adelaide in December of next year.

Dr Austin said he believed that closer collaboration between the Centre's partners would also grow through their joint responsibility for young researchers.

"These will be graduate and Honours students who will take on projects of mutual interest to the various partners," said Dr Austin.

"We will have four Honours scholarships available next year, three of them funded by the Museum."

The fourth will be funded by Dr Austin himself, from funds reserved for research into eradication of European wasps.

—Rob Morrison

Drug study puts price over punishment

From Page 1

"In the US, a recent survey of school children found that nearly 80% of 10th graders and almost 90% of 12th graders rated cannabis as 'fairly easy' or 'very easy' to obtain. This isn't surprising when you consider that under prohibition there are no enforceable age restrictions on the purchase of cannabis.

"By contrast, stores selling alcohol risk losing their licences if they sell to minors, because there is a legal age restriction."

Another major issue is that governments could potentially have difficulty implementing a sales tax policy on marijuana, because tax payments can be avoided by black-market transactions.

"Again, the case of alcohol provides evidence that most people prefer to pay the higher prices associated with government taxes rather than purchase on the black-market," Dr Williams said.

The study, which was funded by the Australian Research Council, utilised data from the National Drug Strategy Household Surveys as well as pricing data provided by Australia's State Commissioners of Police.

—David Ellis

THE current state of science in Australia raises many concerns, not the least of them what its future will be.

As university science departments close or merge, as their student numbers decline, and as science in the school curriculum competes with more options, some wonder where the next generation of scientists will come from.

It is a pretty good bet that they will come from

Farewell to brilliant mathematician Eric Barnes

EMERITUS PROFESSOR Eric Stephen Barnes died peacefully at his home in Lobethal on October 16, after a long illness, aged 76 years.

Eric was born in Cardiff, Wales, but his parents soon moved to Sydney where he proved a gifted prize-winning student at Canterbury Boys' High School. He graduated in 1943 at the University of Sydney with First Class BA honours in Mathematics as well as in French.

His studies were interrupted by three years war service in an intelligence unit with the Citizen Military Forces. His exceptional expertise as a crypto-analyst earned him his commission as a lieutenant and helped him to decide to pursue a career in Mathematics rather than French.

In 1946 Eric was appointed a Teaching Fellow in Pure Mathematics at the University of Sydney and in 1947 he was awarded the JB Watt Scholarship for study in Cambridge where he was accepted by Trinity College. He gained his Cambridge BA degree in 1949 and his PhD for research in number theory in 1951. He won the prestigious Smith's Prize for Mathematics, was awarded a Fellowship at Trinity, and appointed as an Assistant Lecturer in Mathematics.

In 1953 he was appointed to a Readership in Pure Mathematics at Sydney University. In 1954 he was elected a Fellow of the Australian Academy of Science, one of the first group to be elected after the Academy's foundation, and he was awarded the Academy's Thomas Ranken Lyle Medal in 1959.

When HW Sanders retired as Professor of Mathematics at the University of Adelaide in 1958, the Council decided to replace him by two professors, one in Pure Mathematics and one in Applied Mathematics. Eric was appointed as Elder Professor of Pure Mathematics while I was appointed to the Chair of Applied Mathematics. So began many years of close friendly cooperation as we helped transform a relatively inactive department to arguably the most active in Australia.

As well as being a brilliant research mathematician, Eric was a very clear expositor. He was an excellent lecturer over a wide range of courses from first year to honours level. He led the development of many mathematics subjects and soon established a strong research group in number theory, successfully supervising a sequence of postgraduate students. In historical order, his students were Jane Pitman (Sydney), and, at Adelaide, Paul Scott, Rod Worley, Tom Dickson, Peter Blanksby, the late Chris Nelson, and Dennis Trenerry.

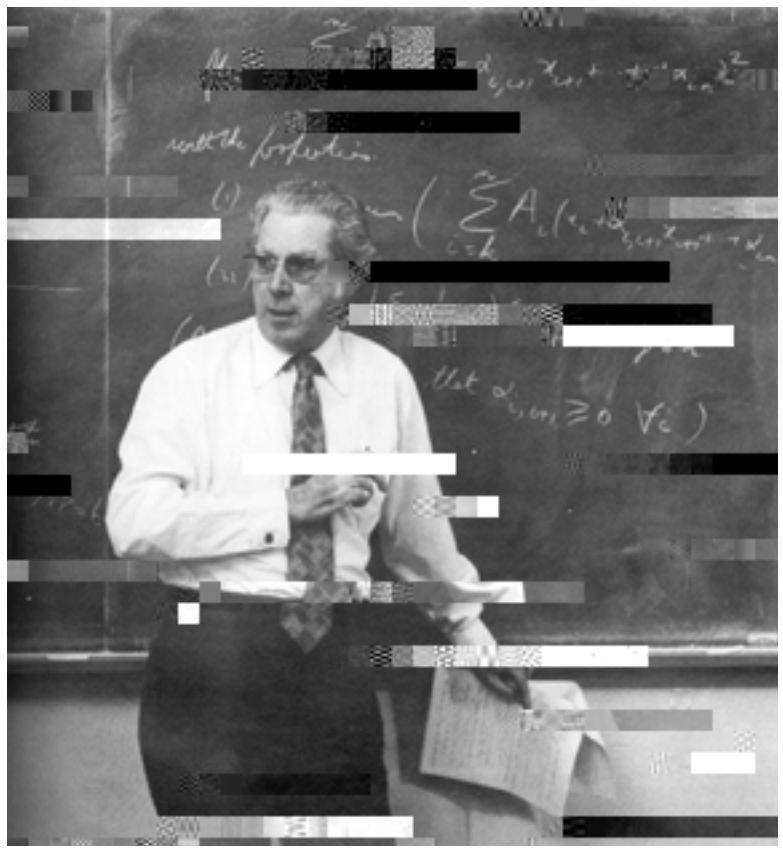
During his first decade in Adelaide, Eric played a leading role in connection with school mathematics and began his involvement in university entrance matters. He served terms as Chief Examiner in Mathematics for the Public Examinations Board and as Chairman of the Board.

Perhaps to the detriment of his mathematical research, he became increasingly involved in administration. A partial list of the responsible positions he held in the University is impressive: Head of Department, First Dean of the Faculty of Mathematical Sciences, Chair of Education Committee, Member of University Council, Deputy Vice Chancellor.

With the support of AW Jones of the State Education Department, Eric was responsible for establishing the Mathematical Association of SA (the state professional association of mathematics teachers) and became its foundation President. Nationally, Eric was, at various times, President of the Australian Mathematical Society, a member of the Council of the Australian Academy of Science, and its Secretary (physical sciences).

In 1980, restructuring of the University's management saw the two Deputy Vice Chancellor positions discontinued, and Eric returned to the Pure Mathematics Department as a Professor, taking early retirement in 1983. The ES Barnes Prize (for third year Pure Mathematics) was established in his honour in1984.

Eric's research was in the branch of number theory known as the geometry of numbers. In particular, he and several of his students studied packings of equal spheres in multi-dimensional space, a topic which has connections with crystallography, lattices, groups, and codes. His major contributions to this topic culminated



in important joint work with NJ Sloan of Bell Laboratory, Murray Hill, New Jersey, published in 1983.

Apart from mathematics, Eric's interests were in music (especially Mozart), language (especially French), bridge (especially ACOL), and chess (especially problems).

He will be sadly missed by his colleagues who will particularly remember him for the acuteness of his mind, his mathematical eminence, and for his signal contribution to teaching, research, and administration in the University.

—Ren Potts, with the help of Jane Pitman and other members of the Department of Pure Mathematics

GLEN OSMOND: 3 br, unfurn house (some built-ins), r/c air cond, 2 toilets, close to transport and good schools, walking distance to Waite. No pets, lawns mown. Available now. $240 pw + bond. Ph 8379 4869.

KANGAROO ISLAND: Holiday retreat - vacant Dec - Jan, suit non-smoking couples, magnificent views, min 1 week. Ph 8362 3698.

MALVERN: Gracious 3 bdr house, furn/unfurn, 3 bathrooms, 2 studies, central heating, air con family room, pool, carport. Avail 15 Jan 01 - 31 Dec 01. Ph 8272 4794.

surface barriers: can alterations improve therapeutics delivery? by Dr David Parsons (Pulmonary Medicine, WCH). Seminar Room, 7th Floor, Reiger Building, WCH.

4.15pm History Seminar: The Military Reformation of Elizabethan England by Paul Hammer. Seminar Room, Ground Floor, Napier.

4.15pm History Staff/Postgraduate Seminar: Segregation, Racism and White Woman Reformers: a Transnational Analysis, by Sandra Holton. Seminar Room, Ground Floor, Napier Building.

1.10pm Horticulture, Viticulture & Oenology Seminar: Pyruvate carboxylase: An analysis of enzyme function and gene regulation using molecular genetics by Dr Michelle Walker. Plant Research Centre Auditorium, Waite Campus.

1.10pm Genetics PhD Update: Paul Tosch (third year). Genetics Seminar Room, ground floor, Fisher Building.

12noon Plant Science Seminar: Cytongenics Studies of Alfalfa (Lucerne) Germplasm Sources by Dr Gary R Bauchan (Soybean and Alfalfa Research Laboratory - US Dept of Agriculture). Charles Hawker Conference Centre, Waite Campus.

4.00pm Physiology Special Seminar: [illegible]

12noon Child Health Research Institute Seminar: Airway-epithelium

Academic Promotions Update

The processing and ranking of applications for each of the levels has progressed to the following stages:

APPLICATIONS FOR PROMOTION TO LECTURER (LEVEL B) AND SENIOR LECTURER (LEVEL C)

Faculty of Health Sciences - recommendations approved, and the majority of applicants has been advised. However, there are two applications from title holders which will be considered at a meeting to be held at the end of November

Faculty of Engineering, Computer and Mathematical Sciences - consideration of applications have been completed, applicants will be shortly advised of the outcome.

APPLICATIONS FOR PROMOTION TO ASSOCIATE PROFESSOR (LEVEL D)

Applicants are reminded that these applications will be ranked by the Discipline Sub-Panel and the University Promotions Committee. Recommendations will be approved by the Vice-Chancellor.

Physical Science Discipline Sub-Panel: Ranking has been completed.

Biological & Health Sciences Discipline Sub-Panel: Ranking has been completed.

Humanities and Social Sciences Discipline Sub-Panel: Ranking has been completed.

The University Promotions Committee expects to finalise

NHMRC PROGRAM GRANT APPLICATIONS FOR 2002

The final policy statement for the new NHMRC Program Grants Scheme is now available on the NHMRC website at: <www.health.gov.au/nhmrc/research/contents.htm>.

The deadline for notifying the Office of the NHMRC of Intent to Apply is 31 December 2000 while the internal deadline for final applications will be 30 January 2001. The Intent to Apply is not mandatory or binding but will assist the Office of the NHMRC to arrange peer review in a timely manner.

ARC CLOSING DATES, 2001

Formal advice has been received from the Australian Research Council (ARC) of the closing dates in 2001 for applications for funding in 2002. They are:

16 March 2001: Discovery - Projects [formerly Large Grants and Fellowships] Internal close: 22 February

30 March 2001: Linkage - International Fellowships [formerly IREX Fellowships] Internal close: 15 March

12 April 2001: Linkage - Projects [formerly SPIRT] Internal close: 22 March

4 May 2001: Linkage - Projects (APA(I) only) [formerly SPIRT APA(I)] Internal close: 12 April

1 June 2001: Linkage - Infrastructure [formerly RIEF] Internal close: 19 April (draft); 24 May (final)

21 June 2001: Discovery - Indigenous Researchers Development Internal close: 4 June

Continuous: Linkage - International Awards Internal close: continuous

ARC INFORMATION SESSIONS

An Information Session at which the guidelines and application procedures for all of these schemes for 2002 and feedback on the 2001 application round will be discussed has been scheduled for Tuesday 12 December, from 10.30 am to 1 pm in the Council Room, Wills Building.

Details are available on the “What’s New” page of the Research Branch website. Further sessions for those unable to attend in December, including one specifically devoted to completing the new application forms, will be held in the week commencing 22 January 2001. Further details

Research Grants & Fellowships

The following is a sample of grant, fellowship and other research funding schemes currently available for application. The complete listing, together with guidelines and application forms for some of the major schemes, are available at: <http://www.adelaide.edu.au/RB/>. For hard copy applications and guidelines for the funding schemes listed, contact the Research Branch, ext 35137; or email <kelly.parish@adelaide.edu.au>.

Sponsored Programs Information Network (SPIN): SPIN Australia - A database containing current and comprehensive information on over 2,600 government and private funding opportunities. The SPIN web site is accessible via the Research Branch web site.

Kresge Foundation - Science Initiative (equipment grants): Internal closing date: Apply any time. Web site: <http://www.kresge.org/programs/>.

British Academy - Special Schemes: Internal closing date: Various. Web site: <http://britac3.britac.ac.uk>.

Royal Society - International