



## Two Canterbury graduates to feature on new bank notes

When the new bank notes come into circulation next year two Canterbury graduates will look out from the two highest value notes.

Sir Apirana Ngata, who gained a BA and an LLB from Canterbury College in the 1890s and an honorary DLitt in 1948, will feature on the new \$50 note.

Ernest, Lord Rutherford of Nelson, was at Canterbury College (now the University of Canterbury) at the same time and gained a BA, an MA with first-class honours in mathematics and physics and a BSc before going on to Cambridge University as a research student. His portrait will appear on the \$100 note.

Canterbury University and its staff lobbied for recognition of its famous graduates, particularly Lord Rutherford and Sir Apirana, and the outcome is particularly pleasing. The other notes in the series feature Sir Edmund Hillary (\$5 note), Canterbury suffragette Kate Sheppard (\$10) and the Queen (\$20).

The 1890s were a golden age for Canterbury College. In 1891 the College's Declarations Book was signed by W. S. Marris, who had a brilliant career as an administrator in India, Ernest Rutherford, John Angus Erskine, a scientific leader in Australia's first great industrial expansion and a major benefactor to the University, Apirana Ngata and James Hight, who returned to lead the College forward again in scholarship and research.

Ernest Rutherford enrolled here in 1890 and left for Cambridge in 1895 after completing his degrees and spending two years on his own research in the Den, now preserved as a display at the Arts Centre, formerly the Canterbury College site.

His first research at Canterbury was at the forefront of electrical technology, while his early work at Cambridge involved the effects of X-rays on gases.

In 1898 he accepted a professorship at McGill University in Montreal, Canada, where he defined a new branch of physics, radioactivity. In 1902 he announced his theory of radioactive disintegration.

In 1907 he became professor of physics at Manchester University and in 1908 was awarded the Nobel Prize for Chemistry for his research into the disintegration of the elements and the chemistry of radioactive matter.

He presented a new model of the atom in 1911 and in 1919 he first split the atom, transforming the whole of science in the process. He died in 1937, two years before

*(continued on next page)*



Canterbury's most distinguished graduate, Ernest Rutherford, aged 21 . . . his portrait will appear on the new \$100 note.



Apirana Ngata, the nation's first Maori graduate, at his graduation ceremony last century . . . his face will feature on the new \$50 note.

### Employers Association and Management Dept combine in a major study of local businesses

**The Department of Management and the Canterbury Employers' Association have combined to undertake a major Management Study of Canterbury businesses.**

The 1991/92 Canterbury Management Study will survey more than 200 business managers in Canterbury, updating a similar survey conducted in 1983.

Mr Colin McInnes, Chief Executive of the Association, says the study will provide valuable information for development of both the Management Department's teaching programmes and the Association's activities.

"The principle objective of the study is to develop a more effective programme for management education, based on sound training needs analysis," Mr McInnes said.

"Other objectives of the study are to identify, within the Canterbury region, those characteristics and factors that have assisted managers to succeed in the current economic and business climate, with particular emphasis on educational background, style of management and qualifications.

"These findings will be compared with the results of a similar study undertaken in 1983 and will enable both the University and the Association to assess the relevance of the formal management training currently available. They will also be useful in designing and establishing effective training for current and future managers."

The 1983 survey helped shape development of Canterbury's MBA programme and the 1991/92 survey will be used to further refine it.

"The 1991/1992 study will enable the University and the Association to assess the effect that dramatic changes which have occurred in the New Zealand economy — deregulation, corporatisation and privatisation of Government departments, "user pays", internationalisation and a world recession — have had on individual styles of management. The results will better enable us to tailor our activities to ensure we are meeting the changing needs of management", said Mr McInnes.



## Canterbury graduate appointed in Mechanical Engineering

A Canterbury engineering graduate, Dr Paul Hodgson, has been appointed a Lecturer in the Department of Mechanical Engineering. Dr Hodgson, who has been a temporary lecturer in the Department for the last year, took up the appointment on 1 November.

Dr Hodgson was born in Wellington and undertook his engineering intermediate at Victoria University before coming to Canterbury. He completed a B.E. (Mechanical) with first class honours in 1985 and was awarded his Ph.D. this year. His topic was computer simulation and control of hydraulic dynamometers.

Dr Hodgson's wider research interests are operations management in engineering and the design of organisations for industrial production and maintenance, particularly the use of systems concepts in the field; production technology improvements for the benefit of small to medium scale manufacturers; and applied mechanics and control in industrial environments.

He was a tutor in the Department for five years before taking up a temporary lecturing position last November. Dr Hodgson is a



keen soccer player, winning a Canterbury University soccer blue in 1989 and also captaining the New Zealand Universities soccer team that year. He was the University soccer club's coach this year and was club captain from 1986 to 1990.

### Further lectures in "Gown in Town" series

Two further lectures in "The Gown Returns to Town" series will be held at the Arts Centre on 13 and 20 November.

Art historians Julie King and Pamela Gerrish Nunn will give the 13 November lecture, entitled "Sisters in art? Women artists in Great Britain and colonial New Zealand."

The lecture of 20 November will be delivered by sociologist Kevin Clements. His topic is "Break nuclear ties — promote functional cooperation: Maintaining the integrity of New Zealand's anti-nuclear policy."

Both lectures start at 1.10 p.m. in the Arts Centre's Hurst Seager Room on the corner of Hereford Street and Rolleston Avenue.

The lecture series has been organised by the Arts Centre Association as a fund raising project. All proceeds go to support Arts Centre activities.

### Halls' places prove popular

Applications for places in Canterbury's Halls of Residence are at a similar level to last year, with about 1450 applications for 720 beds.

The Principal of University Hall, Reverend Don Wilson, says once allowance is made for current residents who want to return to the Halls next year the ratio of applicants to available beds is between 2½ and 3.

Offers of places are sent out on 1 November and the process is then continuous as applicants choose to accept or decline.

A trend noticeable in the past two years has been a higher withdrawal rate, which Mr Wilson attributes to the "scatter-gun" effect where students apply to a number of different universities to maximise their chance of getting a place.

### Music function for Maurice Till

Pianist and music lecturer Maurice Till retires from his University position in January, but not of course from his performance career.

The School of Music is giving all staff early warning of an informal function to be held for him in the North lounge of the Staff Club on Thursday 12 December from 5 to 7 p.m.

### Graduates on bank notes

— continued from previous page

German scientists discovered the neutron reaction.

Dr John Campbell (Physics), a biographer of Lord Rutherford, said Rutherford altered mankind's view of nature on three separate occasions by explaining naturally occurring radioactivity, determining the structure of the atom and being the world's first alchemist.

Sir Apirana Ngata was the first Maori to graduate from university in New Zealand and one of the first of any race to gain a BA(1893) and LLB(1897). He went on to become an outstanding leader of his people in the 20th century. Sir Apirana was of Ngati Porou descent.

After a brief period practising law in Auckland he became an influential member of the Young Maori Party, formed mainly by Te Aute College old boys. He was elected to parliament in 1905 and remained there for 38 years, holding the Native Affairs portfolio in three administrations.

Sir Apirana became a man of great influence in the Maori world and among pakehas. He devoted much time and enthusiasms to Maori resettlement on the land and to research into Maori tribal history.

Throughout his life he had one goal — to uplift the Maori race spiritually, culturally and economically. He was an outstanding leader of the Maori people in the 20th century. He died in 1950.

1991 has proved to be the busiest year yet for the Macmillan Brown Centre for Pacific Studies. The publication programme has made good progress, demand has been high for the Centre's advisory services, the Macmillan Brown Library has expanded its collection and there has been a continuing call for the Centre's teaching expertise.

But it is the amount of research and the calibre of the Centre's research scholars that has pleased its Director most. Dr Malama Meleisea says the ability to attract researchers of repute in their field reflects the Centre's increasing credibility.

One of his aims this year has been to expand the range of research disciplines beyond the hard core of sociology, anthropology and political science.

Dr Bruce Harding's tenure reflects that aim. Dr Harding is working on a critique of the life and writings of author Keri Hulme, examining her personal history as well as her literary work.

Dr John Henderson, a former Canterbury lecturer and head of the Prime Minister's Department in the David Lange administration, was awarded a nine-month scholarship to work on the development of the future of parliamentary systems in the Pacific Island nations. He has completed the historical section and plans visits to Samoa, Fiji and Papua New Guinea to look at future prospects.

Dr Howard van Trease has a 12-month award to do research on elections in Vanuatu and Kiribati. Dr Meleisea has done similar work on the Samoan elections and the two men plan to present a joint seminar next year on parallels between the electoral processes in those countries.

Dr van Trease was previously director of extension studies at the University of Papua New Guinea and before that was director of the University of the South Pacific Centres in Kiribati and Vanuatu. His term expires in June.

Professor Ron Crocombe, a research scholar in the past and a regular visitor to the Centre, has finished his book on New



A busy year for the Macmillan Brown Centre — back row (from left), researcher Dr Bruce Harding, secretary Mrs Kate Scott, director Dr Malama Meleisea and researcher Dr Howard van Trease; front row (from left), researchers Dr John Henderson and Professor Ron Crocombe.

Zealand's relationship with Pacific Island countries and is discussion publication with the Centre and the Canterbury University Press. He is also editing the collection of papers presented at the Centre's first major conference on "Land tenure and development in the Pacific."

Another research scholar, Mr Mahe Tupouniua, arrives next week to start a nine-month visit. He was first director of the South Pacific Economic Bureau (now the South Pacific Forum Secretariat) and will write about his role there.

Dr Meleisea is working on a number of research projects. He is working with the Reverend Leuatea Sio, one of the longest-serving Pacific Island missionaries in New Zealand, on an oral history project on Rev. Sio's work amongst New Zealand's Pacific Island community. He is also working on a book reinterpreting Tongan and Samoan history, and is continuing with his main

interest of social change in the context of Pacific Island land tenure systems.

Dr Kerry James completed an 11-month visit earlier this year and a number of other researchers are working with the Centre on other shorter-term projects.

### Staff vacancies

Applications are invited for the positions listed below. Application forms and Conditions of Appointment are available from the Concourse or the Staffing Section of the Registry.

The positions are:  
**Secretary, Electrical and Electronic Engineering;**  
**Network Planner, Computer Services Centre;**  
**Secretary (temporary), Education;**  
**Programmer-Analyst, Data Processing;**  
**Programmer-Analyst (temporary), Data Processing;**  
**Technician 1 or 2, Zoology Department.**

### Logie Room a fitting venue for Greek Drama conference

The second Australasian conference on Greek tragedy and comedy will be held in the Classics Department from 11 to 13 February next year. "Greek Drama II" will involve scholars from all the universities in Australia and New Zealand as well as visitors from North America, Britain and Europe.

The programme will be busy: 23 papers will be read on topics ranging from Aeschylus' *Prometheus Bound* to the *Clouds* of Aristophanes, from the importance of performance for interpretation to a discussion of audience reaction.

One highlight of the conference will be the performance in the Free Theatre of Aeschylus' *Oresteia* directed by Robin Bond (Classics), who has also translated the plays. A second will be the keynote lecture, to which all are welcome, given by Richard Seaford of Exeter on the topic *Dionysus, Tragedy and the City-State*.

It is fitting that the conference should meet in the Logie room which is home to the famous black-figure vase by the Swing Painter which depicts five men on stilts (see photo). Scholars generally agree that the vase is important evidence for our knowledge of the history of Greek theatre.

It is also a happy coincidence that 1992 marks the 25th anniversary of the death of Henry Broadhead, a Canterbury scholar whose edition of Aeschylus' *Persians* ranks among the monumental works on tragedy produced this century.

Further information about the conference and a programme can be obtained from the convener, Professor Kevin Lee (Classics), or Ms Prudence Buttery, the conference secretary.



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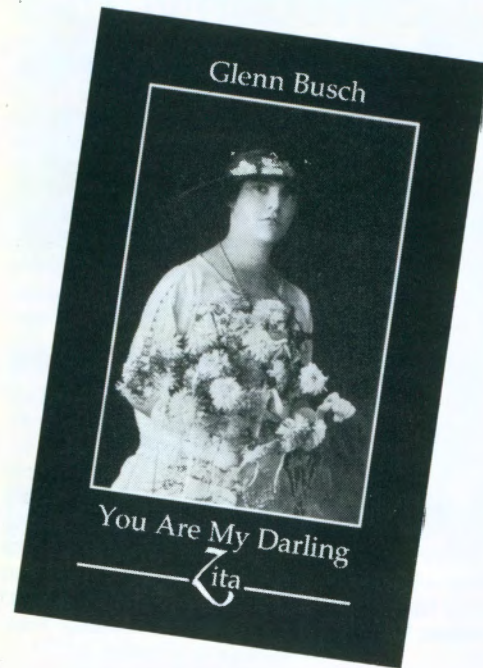
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## What it feels like to be 70+



Six years ago a trip to the West Coast, at the start of what was intended to be a photographic project on coal mining, introduced Glenn Busch (Visiting Lecturer in Photography) to Alex and a different idea altogether.

The project turned into a history of the lives of six ordinary New Zealanders whose stories are compelling "because they are like us." Powerfully built, Alex Coutts had spent his life as a coal miner, but by the time Glenn Busch met him he was 77 and frail. The conversations were the inspiration for *You Are My Darling Zita*, an exploration of how it feels to be old.

In response to his questions, the six subjects told him all about their lives. "To understand a person's perceptions of old age, it was necessary to place it in a context; that is what they seemed to be telling me."

Glenn Busch was looking for a range of background and experience in his subjects but it wasn't easy to make a selection. "I had to find people willing to talk about their lives in an extremely

personal way". And the frankness he was asking for had to be reciprocal. "I had to be prepared to answer any questions that these people wanted to ask of my life."

Although he included his own photographic portraits of each of the six, the other thing he was looking for when he selected subjects was people with photographs of their own. "The way people use their own photographs often says a lot about them" Most of the photographs in the book came from those private collections.

Six years and several million recorded words later, Glenn Busch believes he's come a lot closer to understanding what it feels like to be old. "But I still think it's impossible to put yourself there. There's a mechanism that somehow makes it impossible to be there until you're there. But for me it's been a huge experience."

*You Are My Darling Zita* is published by Godwit Press in New Zealand and Temple University Press in the United States. It retails at \$44.95. L.G.

## Making maps with a MAC

Bringing graphic work and maps up to publication standard is an important part of life in the Geography Department.

During 1989 it was decided that computer-aided cartography in the Geography Department, would be introduced for publications and for teaching aids. This introduction was motivated by the emergence of computer cartography as a world-wide trend.

A good reason for the initiation of this service was the technical advantage offered by this method.

For example: Maps can be adjusted at any stage of their creation, or later, for updating or correcting; information from other maps and other sources (computer generated or otherwise) can be combined within a single work; the output can be printed on a LaserWriter when finished; information can be removed or added without damaging the final output — using non-computer methods, unwanted information has to be physically erased from the paper, or covered over; for text, several different fonts can be used with simple keystrokes — hand draughting, ink stencils or stick-on lettering takes longer.

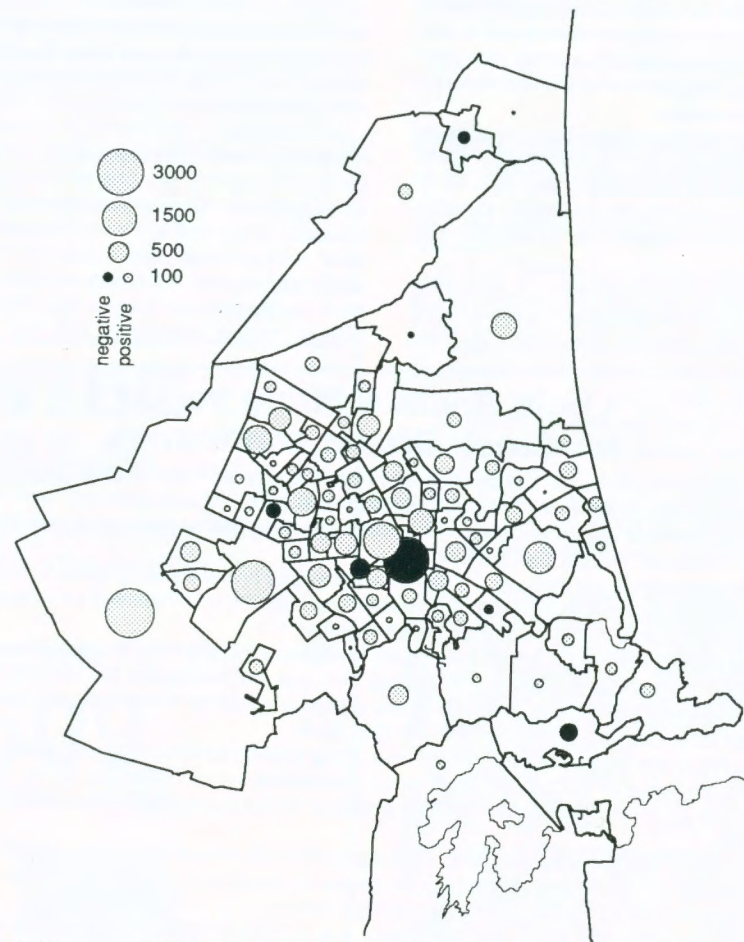
Using a scanner, the original work is stored in the memory of the computer (in this case a Macintosh IIx). The image from the scan is usually redrawn on the screen by tracing with a mouse. The software package, Aldus Freehand, is a very good tool for this work.

At this university there is very good support in computing for both the novice and the advanced user. With this help, many hours of tedious work can be avoided.

As is often the case, the ease of operation and quality of output varies from system to system depending on the budget available for setting up this sort of computer workstation.

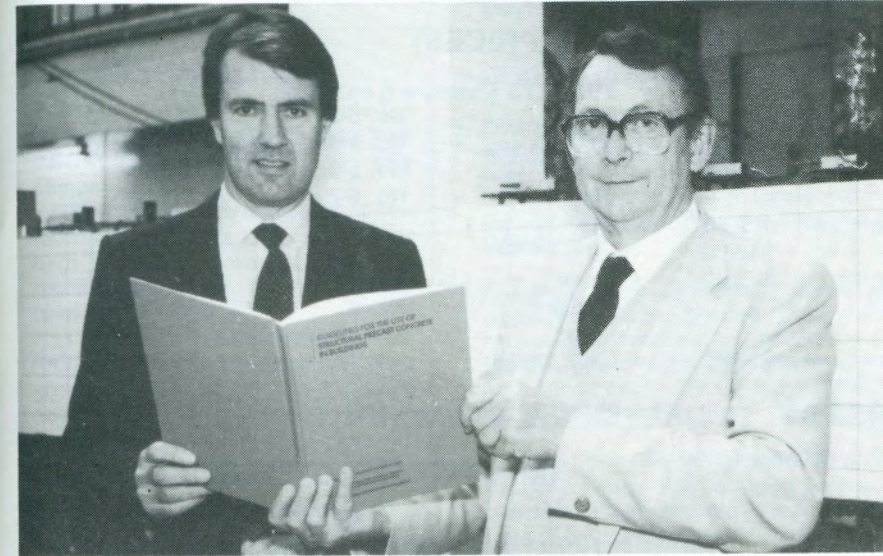
Alastair Dyer (Geography)

Christchurch Urban Area: Changes in Workplaces 1971 to 1986



To create this map a BASIC program was written to read values from a spreadsheet table and represent them as proportional circles. The process was simplified by having a Christchurch base map available, stored on disk.

## Precast concrete book reflects NZ role



A new book on *Guidelines for the use of structural precast concrete in buildings* reflects New Zealand's pre-eminent role in the use of precast concrete.

Professor Bob Park, Head of Civil Engineering and an international expert in the seismic resistance of concrete structures, returned last week after presenting the New Zealand viewpoint at a United States-Japan workshop on the use of precast concrete in seismic-resisting structures, held in Tokyo from 31 October to 2 November.

Professor Park said the workshop confirmed his view that New Zealand made excellent use of precast concrete in its

buildings, and that New Zealand engineers and fabricators showed "a high level of innovation and efficiency."

In the past the Japanese had used structural steel for their large buildings but rapid growth in the use of precast concrete meant they were looking to New Zealand and other nations for their design approach, Professor Park said.

The origins of *Guidelines for the use of structural precast concrete in buildings* lie in the New Zealand building boom of the mid-1980s. The desire to build quickly and cheaply led to rapid growth in the structural use of precast concrete, but also to some

concern about some of the design solutions being used.

In February 1988 a seminar on campus brought designers, researchers, fabricators and constructors together to address the issues. Following that seminar a study group was formed, jointly funded by the New Zealand Concrete Society, the New Zealand National Society for Earthquake Engineering and the Centre for Advanced Engineering.

The study group's aim was to summarise existing data in a form useful for New Zealand conditions, to indicate recommended practices, to identify special concerns and to recommend topics requiring further research.

The outcome of their work — *Guidelines for the use of structural precast concrete in buildings* — is a 174-page book printed by the University Printery and published by the three sponsoring bodies. The various chapters were written by specialists such as Professor Park and tied together by a technical editor, Canterbury Engineering graduate Mr Andrew Charleson (School of Architecture, Victoria University).

A good deal of the research results quoted in the *Guidelines* are from research projects conducted in Canterbury's Department of Civil Engineering.

Formatting, layout and production were overseen by Mr John Lumsden, projects director at the Centre for Advanced Engineering. *Guidelines* is a high quality production and significant demand is expected from overseas as well as New Zealand. Copies are available from CAE.

## Desktop-published reports give course a professional flavour

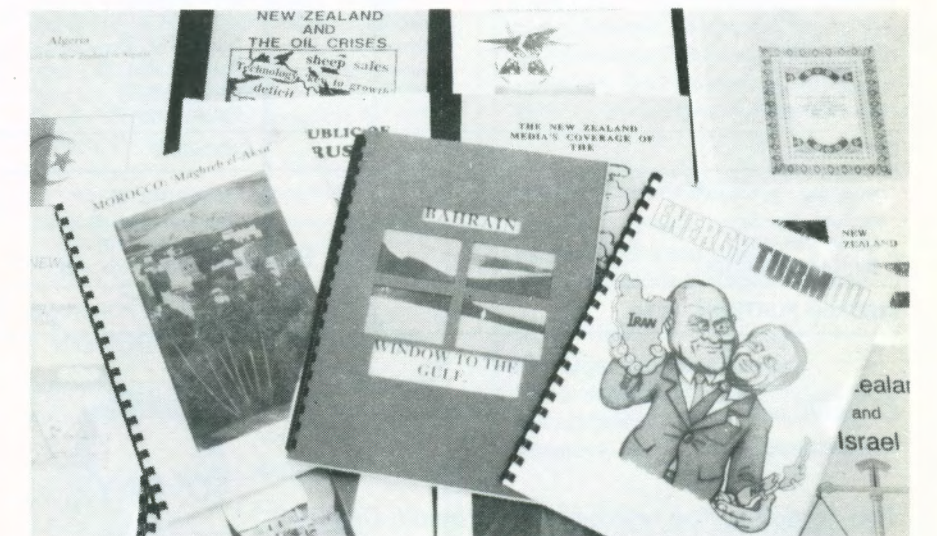
Third and fourth year students studying POLS 303 are getting a foretaste of political life through the Jim Hacker project.

Named after the impressionable star of the television comedy *Yes Minister*, the project puts students in the position of preparing a serious political report to the Minister. They are required to research their topic through Government agencies such as the producer boards and the Ministry of External Relations and Trade (MERT).

The content of the report is critical but the course lecturer Dr Ron Macintyre, emphasises that it must be presented in a professional way as a desktop-published report. Students must word-process their reports, and many use colour photocopy inserts, photographs and graphics in it, as well as covering it in cardboard and mylar sheets and having it bound.

"The idea is to let students know how they can package their work in the most professional way. If they want a career after they leave us they need to know about computers and they need to be able to package their work in a way they would be proud to present," he said.

Student feedback on the project has been excellent and agencies such as MERT have supported it by providing briefings,



answering questions and sending staff to speak to the group.

POLS 303 is about "New Zealand and the Middle East: politics, energy and trade". Examples of the report topics assigned are "Media coverage of the Gulf War", "NZ and Morocco", "NZ and Turkey — trading prospects for the 1990s."

The final products are creditable and professionally presented. The students learn how to make their work look as impressive as possible and get introduced to the idea of research beyond the library... and the reports serve as a resource for future years.



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**Zonta Science Award — 1992**

Applications for the Zonta Science Award are now invited from women graduates who have excelled in the fields of pure or applied science.

The applicant must be either: studying for a further qualification; involved in research; or employed by a public or private company. The contribution to the community of her current work and her own potential to benefit from the Award will be considered important.

The Award recipient receives: \$5,000, an around-the-world air ticket and a silver and gold medal, designed by well-known sculptor Tanya Ashken.

ZONTA is an international service organisation of executive and professional women. The Wellington Zonta Club — one of 25 clubs in New Zealand — initiated the biennial Zonta Science Award in 1990.

Application forms are available from ZONTA Club of Wellington, Attn: Science Committee, P.O. Box 10274, Wellington. Applications close on 31 March 1992.

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Professional couple with young baby seek a fully furnished house from the beginning of December 1991 for 1 to 2 years, within 15 minutes drive of Christchurch Public Hospital. Can you help? Please phone 03 454 5384 or write to Dr S. Henderson, 74 Every Street, Dunedin.

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# NZARP funds six Canterbury Antarctic research projects

New Zealand's Antarctic Research Programme (NZARP) is funding six Canterbury University projects in Antarctica this summer. Four are long-term studies and two are continuations of projects started in the last few years.

The first project will examine nitrogen fixation and nutrient fluxes in Antarctic soils. The physical and chemical factors affecting nitrogen fixation in soil and pools will be studied using a portable gas chromatograph and microcosms containing freeze-dried organic substances.

Microbial decomposition of water soluble organic substances extracted from biota will also be examined, along with a study of the effects of smoke bomb residues and oil on nitrogen fixation rates. Dr Lawrence Greenfield (Plant and Microbial Sciences) and a fourth-year student Robert MacLean will be based in the Garwood Valley from the end of November to the end of January.

Two geologists, Dr John Bradshaw and Dr Steve Weaver, will continue their study of rock outcrops in Marie Byrd Land to enable comparisons with those in Antarctica (Ford Ranges, Edward VII Peninsula) and New Zealand.

The project is a cooperative venture with the U.S. Antarctic Programme and the British Antarctic Survey. Last year the international team was transported by Otter aircraft but this year they will travel on an American ice breaker and will be transferred to the field sites by helicopter as the ice breaker travels along Marie Byrd Land. The Canterbury contingent leaves early in February and returns late in March.

The aim is to solve two major geological problems which are very significant to Gondwana concepts. The key problems are the relationship of the Marie Byrd Land continental block to the elements of Antarctica, and the place of Marie Byrd Land in the Mesozoic margin of the Pacific Ocean.

Dr Bill Davison (Zoology) will continue his study of Antarctic fish physiology, particularly in relation to environmental hypoxia (oxygen shortage). He will examine fish respiration and what causes changes in the breathing pattern.

In 1989 and 1990 Dr Davison successfully transported Antarctic fish to a chilled aquarium in the Zoology Department, where the fish could be studied in more detail. Again this year samples from two species will be flown to Christchurch with the aid of a field team comprising Dr Davison, Zoology technician Jan McKenzie and a Canterbury Zoology graduate, Dr Craig Franklin. The team will be on the ice from 15 November to 15 December.

The two Physics studies are on-going medium-term projects examining the dynamics of the middle atmosphere using radar techniques. Dr Grahame Fraser monitors atmospheric wind radars at Scott Base and near Christchurch as part of an international study examining global-scale changes in the middle atmosphere (between 10 and 100 km above the Earth).

Since 1984 Dr André von Biel has been collecting data from a backscatter radar at Scott Base as part of a project examining the ionisation mechanisms and the electro magnetic scattering characteristics of the Antarctic mesosphere.

This summer Dr Fraser and Physics' technicians Clive Rowe and Roger Govind will travel to Antarctica in January to replace old equipment. Next year Dr von Biel will visit to check on his equipment.

The final project is a study of aluminium corrosion in the Antarctic environment. Mr Frank Fahy (Mechanical Engineering) has established test sites around the world, including one at Arrival Heights in Antarctica. Each year the Antarctic plates are returned to the University for corrosion analysis before being sent back for a further year.



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It would seem appropriate at this point to discuss the issue of superannuation and retirement planning. Retirement planning is: the accumulation of a set of assets that will accumulate capital which can then at retirement be rearranged to produce income. This 'set of assets' that one may accumulate can include:

- a residential investment property (or two);
- a forestry partnership investment;
- New Zealand equities;
- International equities;
- a horticultural partnership investment;
- a savings scheme (your GSF is an excellent example);
- collectibles – vintage cars, art;
- your own home;
- your insurance policies – remembering that the function of insurance is for risk management purposes;
- a holiday home.

Important criteria that should be considered include:

#### Negotiability

- Investment funds must be readily available.

#### Risk

- What could go wrong? Try and identify all the 'what ifs'.
- It is appropriate to assume risk if you have a five year or more time frame. Note we are referring to market or volatility risk, not company risk.

#### Costs

- What are the set up and continuing charges?

#### Your input

- Do you have the time and inclination to be directly involved with your investments or would you prefer a 'hands off' approach.

#### Your situation

- Funds available and expected; cashflow; investment experience; risk tolerance; time until retirement; expected time in one location.

All the above must be considered carefully with an advisor who has experience, your interests at heart, and importantly, no vested interest in having you follow any one course of action. Future articles will discuss the above considerations in greater detail.

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# Chronicle

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