



ANU host to universities conference

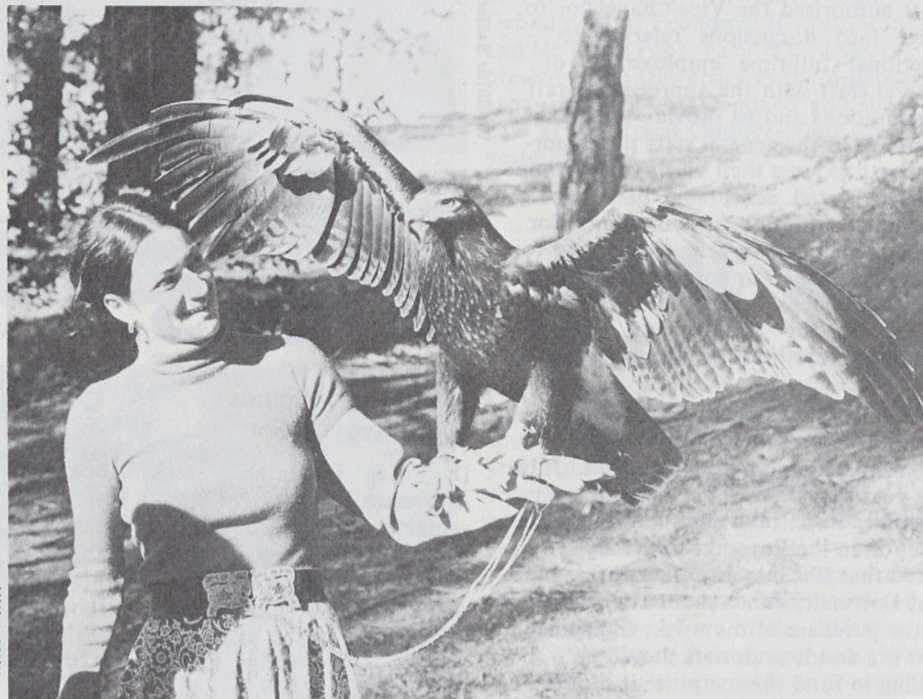
ANU Reporter welcomes delegates to the Conference of University Governing Bodies to be held at ANU from Tuesday 3 to Thursday 5 July.

The conference has been convened by the Australian Vice-Chancellors' Committee (AVCC) and is only the second of its kind; the first was held in 1969. It will enable representatives to discuss the report of the Williams Committee of Inquiry into Education and Training commissioned by the Federal Government.

The conference will be opened on 4 July by the Governor-General, Sir Zelman Cowen, and the Minister for Education, Senator J.L. Carrick, will be guest speaker at the conference dinner.

Professor Bruce Williams, Chairman of the Committee of Inquiry and Vice-Chancellor of the University of Sydney, will present the keynote paper: 'Australian universities in the year 2000'. One of the principal speakers will be Dr William Taylor, Director of the London Institute of Education, who has been especially invited to Australia by the AVCC. He will speak on the teaching role of universities. Other speakers will include Professor B.D.O. Anderson, University of Newcastle, on the research role of universities, and Sir Richard Eggleston, Chancellor of Monash University, who will speak on the role of university governing bodies.

Among the discussion topics are: the accountability and evaluation of universities; selection, assessment and progress; teaching the teacher to teach; and education or training - which for employment?



Mike Finn

Ms Reymond with the wedge-tail eagle.

Visual system of wedge-tail eagle under study

A collaborative research project involving three ANU Departments recently carried out a study on the visual abilities of an eagle which may eventually provide information about the human visual system as the two systems appear to have some similar characteristics.

Liz Reymond, a masters student in the Department of Psychology, under the supervision of Dr W.P. Bellingham, has been involved in these experiments for the last two years. Facilities, equipment and discussion have been jointly provided by Professor A.W. Snyder,

Department of Applied Mathematics in the Research School of Physical Sciences, Professor R.F. Mark, Department of Behavioural Biology in the Research School of Biological Sciences, and Dr M. Cook, Department of Psychology.

The experiments used an Australian bird of prey, the wedge-tail eagle. Eagles, Ms Reymond says, are interesting subjects for vision research because they appear to be especially dependent on their visual systems for survival. But little is known about the visual systems of the day hunting birds of prey except that they possess a high resolving power (ability to see objects from longer distances) than man.

Ms Reymond's experiments investigated another aspect of visual performance—sensitivity to contrast or the ability to detect small differences in light and shade—in the visual system of the wedge-tail eagle. The experiments used behavioural techniques to determine contrast sensitivity functions for the eagle at low light levels. Such functions are useful measures of visual ability because they describe how a visual system responds to different contrasts over a range of object sizes.

A member of the RSBS staff, Ms Audrey Chapman, was also tested under the same conditions to show how humans respond to different contrasts. Surprisingly, it was found that the eagle performed very poorly in comparison with the human subject. The human visual system showed a much higher sensitivity to contrast, sometimes up to 100 times better than the eagle.

The visual system of the wedge-tail is adapted for hunting from a great height in bright daylight when shadows give good contrast. It appears that the eagle's poor performance in low light conditions is a consequence of this adaptation and that the eagle has traded contrast sensitivity at low light levels for superior resolution at high light levels.

RSBS Open Days

A wide range of scientific equipment and models, and a film are among some of the principal features of the Open Days, Wednesday 4, Thursday 5 and Friday 6 July, for the public at ANU's Research School of Biological Sciences.

Many laboratories will be open for inspection with static and live exhibits of work being done at the School. The exhibits will illustrate current studies of the biology of a variety of Australian plants, animals and microbes.

The Research School will be open on the three days from 3pm to 9pm and visitors will be able to follow a marked route around the several exhibit areas. Public lectures by staff on current research will be presented each evening commencing at 7.30pm in the School Common Room. The topics include: 'People, their genes and their environments' (Dr Gibson and Dr Martin, 4 July), 'Plants and their environment' (Dr Cowan and Professor Osmond, 5 July) and 'Communication between cells' (Dr Smith and Dr Shaw, 6 July).

Local secondary college student groups have been invited to the School on the Thursday and Friday Open Days.

Below: If you want to find out what's behind the bush come to the RSBS Open Days.



RSBS

Information Day

The University will hold an Information Day on Wednesday 4 July for prospective students from Canberra and NSW regional centres. It has been planned especially for 1979 school leavers, their parents and teachers, and for mature-age students who may be interested in studying at ANU next year.

The Information Day will provide prospective students with basic information about ANU courses, enrolment, study facilities and careers after graduation. Teaching staff will answer questions on academic matters, the University Library will be open for inspection and there will be demonstrations of teaching resources. Student facilities, such as the Union, Sports Union and the health and counselling services, will be open to visitors, who will also be able to inspect the range of student accommodation (including low-cost accommodation) available at ANU.

Details about the Information Day have been circulated to schools. Inquiries can be made to Mr David Walsh on 062-49 3452.

Standing Committee of Council meeting

Items considered by the Standing Committee of the Council of the Australian National University on Friday 8 June 1979 included those mentioned below.

Membership of Council. The House of Representatives has re-elected Dr R.E. Klugman and Mr P.M. Ruddock to serve as members of the Council for a period of three years from 18 August 1979.

Faculty of Law. Standing Committee approved that the period of office as members of the Faculty of Law of Mr Justice G.H. Lush and Mr Justice I.F. Sheppard be extended to 1 January 1980, and that the periods of office of Mr Justice F.X.L. Connor and Professor S.J. Stoljar be extended to 1 July 1980.

Academic calendar. The academic calendar adopted for 1981, 1982 and 1983 will have the following: first teaching period eight weeks, first teaching break two weeks; second teaching period five weeks, second teaching break four weeks; third teaching period six weeks, third teaching break two weeks; and fourth teaching period seven weeks. The calendar for 1979 and 1980 is different only in that it has a first teaching period of nine weeks and a second teaching period of four weeks.

Fractional full-time staffing. Standing Committee received the report of the Working Party on Fractional Full-time Staffing. It endorsed in principle fractional full-time staffing as another available alternative under suitable circumstances.

It accepted for the present the definition of fractional full-time employment to mean '... a type of employment where the salary payable, the qualifying period of service to accrue long service leave, recreation leave, sick leave, superannuation and all other benefits are assessed on the proportion which the total number of hours of service rendered by the employee bears to the total number of hours of service that would have been rendered, had the employee been full-time'.

Letters to the Editor

Cancer Society spends more on public cancer education

It was good to see the recent debate (article and letter by Dr Dent; letter by Dr Furnass) in your columns about, very broadly, cancer research (cures) versus cancer education (prevention). By all means let us air these matters, since to discuss cancer rationally will help channel into positive action the fear of cancer that often paralyses early curative steps.

Your readers should, however, be clear about the overall activities of the ACT Cancer Society. Prevention is of course better than cure, and the Society last year spent rather more money on public cancer education than on cancer research. A major thrust is towards sensible living patterns, relating to many forms of cancer. The Society plans to increase its education budget, and as Dr Dent points out, much of his project gathered information designed to help future cancer education in the ACT.

But preventive action, however sensible, will only affect cancers appearing say 10 to 20 years from now, whereas most people are equally or more concerned with hidden, very early cancers that may be already in process. Since 'many early cancers can be cured',

Standing Committee referred the recommendations concerning the fractional full-time employment of academic staff to the Academic Boards for their comments to provide academic staff with an opportunity to express their views. It resolved to seek the views of the Finance Committee on the establishment of a superannuation scheme suitable for fractional full-time staff appointees; and at this stage to note the remaining recommendations of the committee observing that the recommendations in respect of outside earnings of the fractional full-time appointees will require refining to avoid ambiguity.

It authorised the Vice-Chancellor to enter into discussions relating to fractional full-time employment of general staff with the appropriate staff organisations and to provide individual members of the general staff the opportunity to express their views to determine a suitable and acceptable basis for fractional full-time appointments for existing members of general staff and for new general staff appointments, and to take such steps as are necessary to implement the arrangements agreed including variation of the relevant awards.

Norma Redpath/Piccola Citta. Standing Committee accepted the advice of a committee appointed by Council in July last year that the Norma Redpath sculpture 'Piccola Citta' would be worthy of erection in the Entrance Court area, noted that it is inappropriate at this time that University funds should be applied to the purchase of the work, and agreed that if a donor or donors should be willing to fund the sculpture it should be erected in the Entrance Court in the setting designed by Norma Redpath in association with Robert Woodward.

J.G. Crawford Prizes. Standing Committee approved the award of the 1978 J.G. Crawford Prizes to Adrienne Ruth Hardham, Department of Developmental Biology, Research School of Biological Sciences, and Howard Morphy, Department of Prehistory and Anthropology, Faculty of Arts.

Obituary. Standing Committee recorded on behalf of Council appreciation of the services given by Mr Allan Francis Webb who died on 8 May 1979. Mr Webb had been a member of the University staff since 10 August 1970.

there is an urgent need for research on early detection methods. This is a remarkably difficult field. Further, the ACT Cancer Society receives about half of its income as donations made specifically for cancer research, an instruction that this Society will continue to honour.

The ACT Cancer Society accordingly plans to increase its research expenditure also, and is always keen to receive research grant applications of merit. As in the past, it will continue to try for a realistic balance between its four primary concerns of cancer research, cancer education, cancer welfare and cancer diagnosis and treatment, in the ACT.

Peter Cooper
ACT Cancer Society



Mrs Grannall.



Vladimir Stojanovic

Mr Anthony and Dr Bambrick at the book launching ceremony.

Books

Australian Minerals and Energy Policy

Dr Susan Bambrick's recent book *Australian Minerals and Energy Policy* is a valuable contribution to the works already published on the subject in that it provides a framework against which national policies can be judged. It was launched last week by the Deputy Prime Minister, Mr Douglas Anthony, at the National Press Club.

Published by ANU Press, the book examines a wide range of issues involved in mineral development such as taxation,

University funding

ANU will have the same recurrent funds, in real terms, in 1980 as in 1979, according to a recent statement by the Federal Minister for Education, Senator J.L. Carrick.

Commenting on the statement, the Acting Vice-Chancellor, Professor Ian Ross, says the confirmation that the Government is holding to the principle of three-year funding introduced in 1979 is of great importance. It means that the University will be able to hold to its planning objectives for the 1979-81 triennium.

The implications for ANU of the overall reduction of 15.5 per cent in funds for

Reporter publication details

ANU Reporter is published on the second and fourth Fridays of each month. The next issue will be published on Friday 13 July, for which the copy closing date is Thursday 5 July, am. Inquiries: Madan Nagrath, ext.4170/2229.

Rare honour for Mrs Grannall

For Madeline Grannall it was the culmination of 21 years of dedicated service to the St John Ambulance Association and Brigade to have been recently admitted to the Order of the Grade of Serving Sister.

During an investiture ceremony in Sydney, the Governor of New South Wales, Sir Roden Cutler, presented Mrs Grannall with a medal and a citation 'in recognition of loyal and devoted service in the cause of humanity and the objects of the Most Venerable Order of the Hospital of the St John of Jerusalem'.

Medical Receptionist in the Department of Clinical Science in the John Curtin School of Medical Research, Mrs Grannall has been associated with the University for the last 17 years. During this period she has worked in a voluntary capacity, first as instructor with the St John Ambulance Association and then with the St John Ambulance Brigade examining the practical work of all nurses and nursing cadets in the ACT.

environment, Aboriginal land rights, foreign investment, the development of an integrated energy policy, local processing of minerals and the role of the Government. A separate chapter examines the policies of the Federal Opposition.

The depth of information makes it suitable for a text book as well—at the end of each chapter there is a set of workshop questions. In fact the book has already been adopted as a textbook by three universities. At the same time the book is written at the level of a general interested reader—it deals with several topical issues in the Australian context.

Dr Bambrick is a Lecturer in Economics in ANU's School of General Studies. She has worked as a consultant in mineral economics to both government and industry. She is a Fellow of the Australian Institute of Energy, and in 1978 became an invited member of the Australian Council of the Institute of Energy. She is a member of the Uranium Advisory Council and the Trade Development Council.

Other books from ANU Press

Dr Cameron Hazlehurst (History, RSSS), whose book *Menzies Observed* was published earlier this year, has again appeared in print as the editor of *Australian Conservatism: Essays in Twentieth Century Political History*. Several of the essays offer new perspectives on the life and work of Sir Robert Menzies — his early years, his wartime imperial policy, and the creation of the Liberal Party. There are studies of electoral behaviour, public opinion and the press. Other essays explore the ideology and philosophy of non-Labor parties and Liberal policy on education and social issues.

buildings and equipment in 1980 will not be known until the Tertiary Education Commission recommends on the distribution of that reduction among universities and colleges of advanced education.

Professor Ross says that ANU's 1979 budget for capital works was very small, and its prospects of acquiring needed buildings and building extensions in 1980 would seem to have receded. If university equipment funds are reduced, the consequences will be especially serious in the science schools of ANU's Institute of Advanced Studies where front-line research requires front-line technology.

Convocation Luncheon Solar Australia

Professor Stephen Kaneff will speak on 'Solar Australia?' at the next Convocation luncheon in the University on Wednesday 18 July.

Professor Kaneff, Professor of Engineering Physics in the University's Research School of Physical Sciences, will speak and answer questions on the feasibility of Australia eventually turning to solar power for a large proportion of the country's energy requirements. He will discuss what would have to be done to make the change possible, the costs involved and how lifestyles might alter.

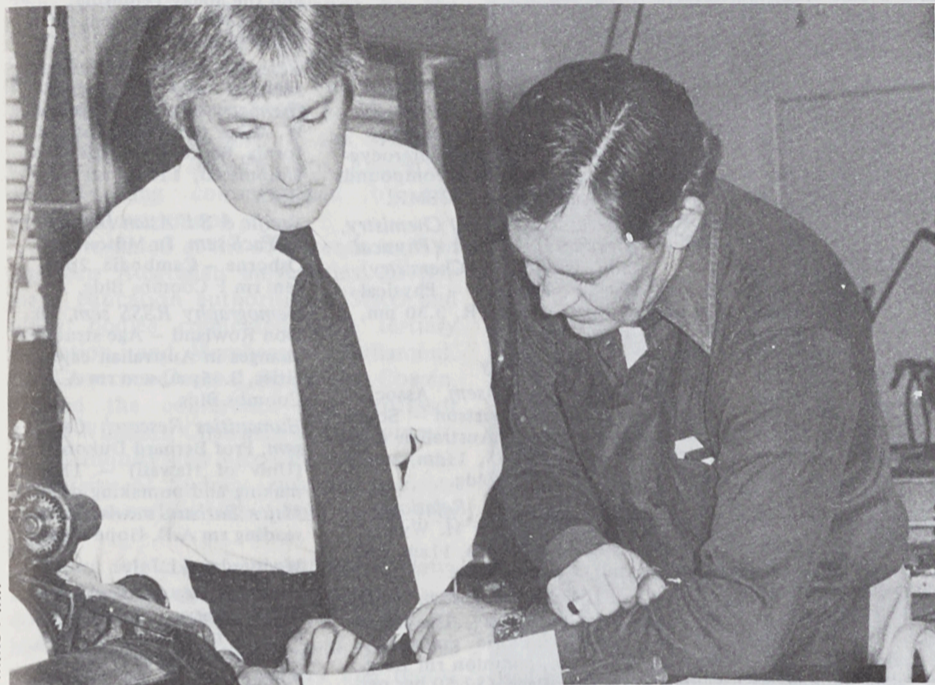
Professor Kaneff's Department was recently awarded \$800,000 by the New South Wales Government to build a prototype solar power station based on the Department's solar energy research program.

The luncheon is for Convocation members of ANU and each Convocation member is welcome to bring a guest. It will be held in the Hall of University House at 12.30-2pm and the cost is \$5 per person. Send cheque (payable to ANU) with full name, address and telephone number to University Information, ANU, by Monday 16 July. Childminding and other inquiries, ext 2229.

Some of the 150 delegates attending the first Australasian conference on nuclear magnetic resonance spectroscopy (*Perspectives in nmr for the Eighties*) held recently in ANU's Schools of Chemistry. The conference was organised by a committee chaired by Dr Alan J. Jones of the National NMR Centre. Overseas speakers included Professor G.C. Levy, Florida State University (addressing the group), Professor Pierre Laszlo, Université de Liege, Belgium, and Professor A.L. Odell, Auckland University, New Zealand. Papers covering basic principles of nmr, biological studies of metabolism in cells and living tissue, properties of membranes and the structural elucidation of commercial polymers using techniques recently developed were presented. A poster session and Symposium Dinner were held in Bruce Hall. The Minister for Science and the Environment, Senator J.J. Webster, made a brief informal visit to the poster session.



Mr George (left) and Mr Keith Hall in a section of the Printing and Duplicating Service.



Mike Finn

Briefly . . .

Academy of the Humanities. Three ANU scholars were elected to the Australian Academy of the Humanities at its Tenth Annual General Meeting recently held in Canberra. They are Mr S.I. Benn, Professorial Fellow in the Department of Philosophy, RSSH; Dr R.R. Brown, Professorial Fellow in the History of Ideas Unit, RSSH, and Dr Isabel McBryde, Reader in the Department of Prehistory and Anthropology, SGS.

Australia-Japan golf day. Two members of the ANU staff, Dr Neville Cain, Department of Economic History, RSSH, and Mr Lewis Pape, Faculty of Law, represented the University at the Australia-Japan Society (ACT) mixed golf day held at the Royal Canberra Golf Club yesterday.

Public lectures on forests. Staff of the University's Department of Forestry will give a four-part series of public lectures on 'Australia's Forests: a perspective on environmental management' on Wednesdays 1, 8, 15, 22 August. Full details will appear in a later issue of the *Reporter*.

International Relations visitor to give 1979 Yencken Lectures

Professor William T.R. Fox, Bryce, Professor of the History of International Relations at Columbia University since 1950, who is currently Visiting Fellow in International Relations, is to give the 1979 Arthur Yencken Memorial Lectures on 'Foresight and Hindsight, 1939-1979'. The lectures will be on Fridays 20 and 27 July in the Coombs Lecture Theatre at 4.30pm.

Print while you wait

When the University Printing and Duplicating Service acquires an automatic offset duplicating system shortly, it will add considerably to the diverse range of printing services it offers to the University community. The duplicator will literally produce copy on demand - a kind of 'print while you wait' service.

Bruce George, Acting Manager of the Service, feels that not enough people on the campus are aware of the different kinds of services, advisory and functional, the unit offers. It is capable of producing a wide range of jobs from simple brochures to four-colour work, stationery books and publications, typesetting, book binding, collation and distribution of papers, photocopying and so on.

'The University community should be made aware that we are here to give them guidance not only on technical matters but on copy presentation and economic considerations as well', Mr George says. 'The unit has some of the most modern equipment and talented production staff comparable with commercial organisa-

tions. It aims at constantly upgrading its services although of late the financial shoe has started pinching'.

The composing section has recently been upgraded by the installation of a photo typesetter. This machine is capable of recording directly on discs. Each disc about eight inches in diameter is capable of recording 288,000 characters which is the equivalent of a small book. Through its ability to accept input from compatible word processing machines it is able to do away with the need of keyboarding, while editorial correction can be easily accommodated. It can reproduce a considerable variety of type-styles in sizes ranging from 5½-point to 72-point.

Mr George should like to see more University jobs going through the Service. He feels that being the University's printer, a certain empathy develops between them and the clients which does not always exist in commercial transactions. The Service can also help with selection of outside printers where necessary.

First know the nature of things

How plants respond to wounding and grafting is the subject of an interesting study by Dr Pamela M. Warren Wilson, Visiting Fellow in the Department of Developmental Biology in ANU's Research School of Biological Sciences, and her husband, Professor J. Warren Wilson, Department of Botany, SGS. Their collaboration began at Reading University soon after leaving Oxford. It arose out of Dr Warren Wilson's thesis on 'Alkaloid formation and transport in leaves and grafts of the Solanaceae'.

They are not strangers to Australia and lived in Deniliquin, NSW, for three years from 1961, where Professor Warren Wilson was a Principal Research Scientist

at the CSIRO Regional Pastoral Laboratory. They moved to Canberra in 1964. While Dr Warren Wilson worked for Professor L.D. Pryor, Department of Botany, on the proliferation of tissues at the base of *Eucalyptus* cuttings, Professor Warren Wilson worked at the Pye Laboratory where his attention was first directed to the relevance of mathematical and physical treatments for plant studies.

In 1966 they returned to England where Professor Warren Wilson became Head of the Plant Physiology Department of the Glasshouse Crops Research Institute, Littlehampton, and initiated a multidisciplinary research program which applied mathematical modelling to

plant growth. A period of study leave in RSBS in 1975-76 provided the opportunity for them to return to the problems of plant response to wounding.

'Dicotyledonous plants have a remarkable capacity to repair wounds to stems or roots by producing first a mass of undifferentiated tissue, or callus, over the wound. There is then an orderly differentiation within the callus such that the continuity of the various conducting tissues interrupted by wounding is restored in a matter of weeks', Dr Warren Wilson says.

'The control of patterns of differentiation, a central problem of plant and animal development, has received more attention from zoologists than botanists. However, wound callus provides a new and convenient system for experiments on regeneration of the actively dividing tissue, or vascular cambium, which is responsible for the continued production of conducting tissues in the life of the plant'.

Patterns observed in wounding and grafting experiments with tomato, thorn-apple, runner bean and horse chestnut plants had led to the proposal in 1961 of a 'gradient induction' hypothesis. This suggested that the position in which vascular cambium regenerated was controlled by the development of a gradient, perpendicular to the wound surface, but in 'some factor yet unknown'.

In the interval since 1961 work in America and Britain had demonstrated the importance of hormones in development, particularly in tissue explants grown in sterile culture. Dr Warren Wilson

worked on sterile culture in 1975-76 in the laboratory of the Canberra Botanic Gardens where it is used in the propagation of Australian native species. On a second brief visit to ANU in 1977 both Professor and Dr Warren Wilson were accommodated in the Department of Genetics, RSBS, and collaborated with Dr P.M. Gresshoff in experiments to test the gradient induction hypothesis now updated on the following lines.

It seems likely that the 'unknown factor' forming the gradient might be the ratio between two diffusible morphogens, specifically a plant hormone, auxin, diffusing away from the centre of a wounded stem, and a sugar, sucrose, diffusing in the opposite direction. Cambium would then regenerate along a path where the ratio of auxin to sucrose concentration was similar to that at the original cambium and its orientation (as regards the type of conducting tissue derived from it) would be determined by the direction of the gradient in this ratio. The hypothesis is supported by simulation studies and by experiments in which wounded thorn-apple stems are covered with auxin (IAA) held in reservoir tubes around the wounds.

Ideally, it should be possible to test the hypothesis by controlling differentiation in sterile callus, or perhaps in lettuce pith explants which are used by Professor L.W. Roberts and his colleagues working at the University of Idaho. A joint application from the Departments of Botany and Developmental Biology has resulted in proposals to bring American expertise in tissue culture and

Professor and Dr Warren Wilson.



Mike Finn

