

CAMPUS NEWS



Field trial of the asparagus harvester

Wollongong asparagus harvester on trial in USA

The University's Centre for Advanced Manufacturing and Industrial Automation (CAMIA) has developed an efficient and effective asparagus harvester using robotic technology.

Earlier this year, CAMIA was invited to send a prototype of the harvester to the USA to participate in trials of mechanised asparagus harvester technology.

The CAMIA machine represented the only overseas technology tested.

The field trials took place from 15-28 May on an asparagus farm in the Columbia basin near Tri-Cities, Washington State.

The CAMIA machine represented the only overseas technology tested

About 37 percent of US asparagus is grown in this region.

Washington State University and Batelle North West Laboratories conducted the trials on behalf of the Washington Asparagus Commission. *Continued page two*

Wollongong asparagus harvester in US trial

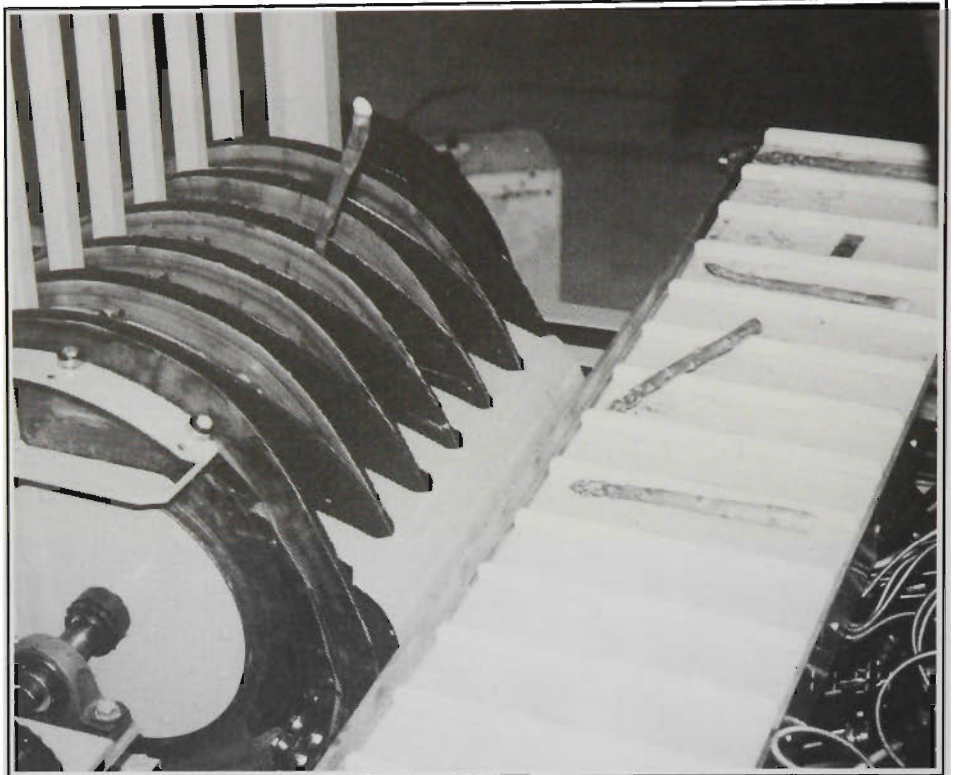
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They tested four different types of mechanised harvesting machines and compared the performance of these automated machines with manual harvesting.

The aim of the trials, which were attended by Associate Professor Victor Stewart and Dr Richard Rudziejewski from Wollongong, was to examine the current state of the art in automating asparagus harvesting and to identify technologies worthy of further development leading to commercialisation and support from the commission.

The CAMIA machine performed well. The report is still several months away from completion and will be awaited with interest.

CAMIA is interested in entering into partnership with other individuals or organisations who can contribute to developing the technology internationally.



Detected by an optical sensor, cut at the required size, the harvester delivers the asparagus much faster and at a more economical rate than manual labour

Ministerial input to education conference

NSW Minister for Education and Training, Mr John Aquilina, gave the keynote address at the 1995 Teacher Education Council Conference hosted by the Faculty of Education on 4-6 June.

Mr Aquilina spoke on Valuing Teacher Education and during his address announced the creation of a new Ministerial Advisory Council on the Quality of Teaching.

He said minimum teacher competence in computer technology and classroom discipline as well as selection criteria for student teachers will be among the first matters to be considered by the new Council.

Dean of the Faculty of Education, Associate Professor John Patterson, welcomed the delegates who come from teacher education faculties across the state.

He said the conference had raised some important issues and generated discussion on matters of vital importance to teacher education.



Minister for Education, Mr John Aquilina

Appointments to the University Council

The University Council comprises 18 members, the various categories of which are prescribed by the University of Wollongong Act.

Some of these (eg. Chancellor, Vice-Chancellor, Chair of Senate) are ex-officio appointments.

Staff and students elect four members; convocation elects four members. A further four members are appointed by the NSW Minister for Education. The Council also has the option of co-opting one member. Other than the ex-officio positions, all are for fixed periods of time.

The remaining two members of Council are members of and represent the NSW House of Assembly and the NSW Legislative Council respectively. Each is elected by their peers.

Following the recent State elections, both these positions fell vacant.

The House of Assembly representative, duly elected, is to be the local member for Keira, Mr Colin Markham.

The Legislative Council representative, duly elected, is to be the Rev. Fred Nile.

The duration of these appointments is not specified and is, in effect, until they are replaced by other parliamentarians.

The basis on which these appointments are made — election by members of the respective parliamentary bodies — means that the University of Wollongong (and this applies to each University) has no choice or say in their nomination or selection.

The University takes the view that it will accept any duly elected representative who undertakes to work in the best interests of the University.

A most innovative IT exercise

The Department of Information and Communication Technology's inaugural 'Meet the Profession' Cocktail Evening was held at the University Centre in Clarence St, Sydney.

Dubbed as 'the most innovative industry liaison exercise ever' by a senior account manager for an international consumer products company, the event aimed to 'bridge the gap' between practising members of the information technology community and the ivory towers of academia.

Spawned by the apparent misunderstanding of information technology graduates from Wollongong by potential employers, the evening provided an opportunity for 60 of Australia's foremost IT industry representatives including a target market of IT training managers and senior human resources personnel to mix with staff and students of the department.

Strategically, it also gave the Faculty of Informatics the opportunity to introduce a host of new teaching initiatives including the successful launch of the new Graduate Certificate and the delivery of Masters subjects at the University Centre.

Speakers for the evening included academic staff and student presentations from both an undergraduate and postgraduate perspective.

It was chaired by the Head of the

IACT Department, Professor Joan Cooper.

Dean of the Faculty of Informatics, Professor Sid Morris, stressed the multidisciplinary emphasis of the department.

Final year honours students, Dean Noacco and Rochelle O'Rourke, described the attributes of an IACT graduate.

Current postgraduate students, Mr Gerard Brien, of the Australian Catholic Education Office, and small business entrepreneur Mr Graeme Cover explored the tacit links that exist between coursework topics and their application to the 'real world'.

The last word was delivered by IT Human Resources Manager for the State Bank of New South Wales, Mr David Wykes, who spoke highly of graduates he had employed within his organisation.

By all accounts the evening was an unequivocal success.

Important new strategic alliances were formed between the University and leading IT organisations.

For example, enquiries have already been received regarding possible sponsorship of departmental activities, an area pioneered by State Bank's sponsorship of a major prize for third year BInfoTech students.

Reinforcing the links between industry and the university, several enquiries were received regarding appointment to the Visiting Commit-

tee, which acts as a check on the relevance and applicability of course materials to industry requirements.

Furthermore, one telecommunications organisation mooted the possibility of parts of its professional workforce undertaking the Graduate Certificate in Information Technology as a means of furthering their education in this ever-changing field.

While these moves highlight the importance of industry links, the true test of any degree program is its recognition in the marketplace, usually indicated by the success of graduates seeking employment.

After a chance to speak with current students, senior representatives from a major international company that overlooked IACT students for initial campus interview, were keen on pursuing the cadet system used by large regional leaders such as BHP in tailoring education and employment requirements using the BInfoTech degree as a base.

One student was surprised to receive an invitation for interview at a prestigious international consulting firm through contacts in the consulting industry on the night.

Others received useful contacts for not only employment purposes, but in true IACT style developed links for educational purposes, particularly in the area of thesis topics for their final study year.

Italian government honours two academics



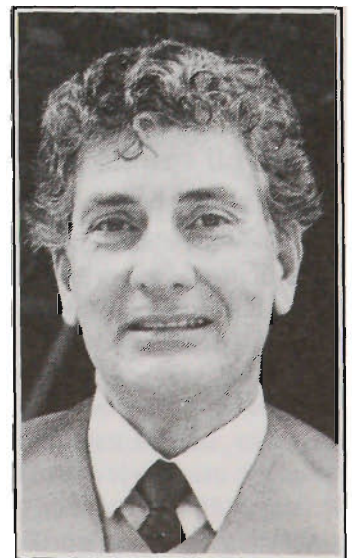
Brian Moloney

At the celebrations held in Sydney to mark the Italian National Day, two members the Department of Modern Languages were made Cavaliere of the Order of Merit of the Italian Republic.

This is an ancient order awarded in recognition of significant achievements in enhancing the reputation of Italy or promoting the welfare of the country or its people.

One was Vincent Cincotta, Foundation Lecturer in Italian at this University, founder and first President of the Wollongong Chapter of the Dante Alighieri Society and an active member of the Italian Social Welfare management committee.

The second was Professor and Head of the Department of Modern Languages, Brian Moloney, who was honoured as the holder of Chairs of Italian in Australia and in the UK, general promoter of Italian culture and Italian studies abroad and a scholar with a list of publications, books and articles on Italian literature.



Vincent Cincotta



Finding books in the Library

In 1994, the Library introduced a TQM (total quality management) program entitled *Quality and Service Excellence*.

The main objective of the program is to develop methods to continually improve services to our clients.

As part of this process, structured interviews with major client groups were conducted to identify areas for improvement.

A commonly identified problem, particularly for students, was that of finding required books on the shelves.

The two main processes involved in this problem are the selection process and the availability process.

Two quality teams have been formed to address each process and these teams have identified and implemented the following strategies summarised below.

Availability

- Two shelf checks were organised last year in which all Library staff participated. Numerous misshelved and 'hidden' books were located. Clients have commented on the improved orderliness of the shelves. The process will continue this year.
- All Library staff devote half an hour per week to tidying an allocated section of the collection.
- Performance standards have been established for shelvers and training in the most efficient methods of shelving provided.
- The utilisation of shelving staff has been improved by increasing staff in peak periods.
- Standards have been agreed for processing returns (1.5 hours) and overall reshelving time (12 hours).

How you can help make these strategies work

- Check the catalogue. If books are on loan, in Reserve or missing this will be noted on the record.
- Recognise that many books will not be in exact location number (Dewey) order because 'browsers' either deliberately or inadvertently mis-shelve books. Check 'around' the number, check the sorting shelves or the trolleys awaiting reshelving.
- Advise Library staff if you cannot



Deputy Librarian, Felicity McGregor, checking the location of books on shelves

locate an item after completing the above steps. If you complete a missing book card, you will be notified when the book is located or replaced.

Selection

- Quality funds are being used to improve the collection by:
 - Purchasing priority teaching and research materials recommended by academic staff (excluding materials requiring an ongoing subscription).
 - Purchasing multiple copies of texts and references for courses with large numbers of students.
 - Purchasing additional copies of heavily-used items.
 - Purchasing additional copies of Reserve material which are available for loan.
- 'Suggestion' processes (through Innopac or suggestion boxes) are being advertised to encourage Library users to request items they need, but cannot locate.
- A collection survey has been conducted to identify needed titles.
- Systems reports are used to reorder missing books which are still in print and extra copies of books with more than two 'holds' at any one time.
- The effectiveness of the selection process has been improved by:
 - The development of an Information Package for Library Liaison Officers (academic staff member who coordinates se-

lection in each department) to ensure all are informed about procedures for selecting and requesting library materials.

- Trial of a service entitled *New Titles Online* to assist academic staff in identifying titles for selection.
- Reminding academic staff of the need for timely submission of requests for all recommended reading so that the Library has time to purchase and process materials before students are required to use them. (Despite persistent efforts, requests are often not received at all. Library staff try to obtain this information in whatever way they can. For example, bookshop lists are obtained and checked; reading lists, obtained from students through the enquiry process, are checked; items not held on Reserve lists are purchased. This could be handled much more efficiently through direct liaison between academic staff and the Library.)

How you can help make these strategies work

- Submit details of all library materials which will be recommended to students in good time for the Library to purchase and process these items.
- Remember most books are published overseas and therefore sufficient delivery time must be allowed.
- When making suggestions for purchase or placing requests, be sure to include sufficient information to enable Library staff to identify the correct item (ie at least author, title, date of publication and if possible, publisher, ISBN, country of origin)

Library staff have identified and implemented many strategies to improve the relevance of the collection and the availability of items on the shelves.

You can assist in the improvement process by adopting the suggestions above and actively assisting Library staff to identify all materials required by students.



Grant Egglinton conducted the Professor of Mining Engineering, Raghu Singh, through the gold extraction plant at the mine during a recent visit.

Wollongong mining engineers break new ground

A Wollongong mining engineering graduate is bringing valuable expertise to what is perhaps one of the most innovative mining projects in Australia.

Dr Dianming Chen is employed as a geotechnical engineer with the Northparkes company.

Northparkes mine is a copper-gold operation situated at Parkes in central western NSW.

It is a flagship for the world in its introduction of automation to underground operations.

The Northparkes company is developing three orebodies on the lease. Two are being mined using conventional open-cut methods, while the third orebody is an underground deposit posing special problems for the mining engineers due to the fractured nature of the rock.

To deal with these problems the company has evolved an innovative

approach to the design of the underground operations.

Mining of the orebody will use the technique called block caving.

Before studying for his doctorate at Wollongong University, Dr Chen spent nearly 10 years specialising in mining by block caving.

The block caving technique is suitable for massive, heavily-fractured orebodies where the block of ore is undermined and the combined effects of gravity and the jointed nature of the rock result in the orebody fracturing extensively.

The broken ore is removed from below using underground openings called drawpoints, turning the unstable nature of the orebody to advantage.

The broken ore funnels down to the drawpoints, and is then taken by four load-haul dump machines to two underground crushers.

Wollongong is also represented at the mine by final year undergraduate student, Mr Grant Egglinton, who recently completed three months vacation employment at the mine.

All mining engineering students are required to undertake vacation employment as part of the course.

Key Centre for Mines courses

The Key Centre for Mines is holding the following courses this year at Wollongong:

19-22 June: Principles of Geostatistics, cost \$850.

23 June: Applications of Geostatistics Seminar, cost \$250.

Inquiries, phone 213 057 or 213 031.

5-7 July: Modelling and Planning of Resources on Computers, cost \$900.

Inquiries, phone 213 057 or 213 031.

7-11 August: Biohydrometallurgy, cost \$1350.

Inquiries, phone 213 3057 or 213 449.

11-15 September: Strata Control - From Principles to Practice, cost \$1100.

Inquiries, phone 213 057 or 213 070.

29-30 November: Behaviour of Soft Jointed Rock, cost \$600.

Inquiries, phone 213 057 213 449.

HSC Students!

Don't waste precious study time

**Why waste time travelling when the best
HSC Preparation Courses are coming to Wollongong**

Sessions will be offered in the following areas:

Date	Time	Subject	Contact Telephone
13 June	9am - 4pm	Economics	042 21 3666
17 June	9am - 4pm	French Italian Spanish Japanese	042 21 3636
3 July	9.30am - 12.30pm	Mathematics 4U 3U 2U Maths in Society	Fax: 02 878 1675
4 July	9am - 5pm	2U Chemistry	042 83 0865
5 July	9am - 12.30 1.30 - 5pm 9am - 5pm	2U Physics 2U Physics 2U Biology	
22 July	8.30 - 4.30	PDH & PE 2U Theory & Prac.	042 21 4092/ 042 21 3874
16 September	9am - 5pm	English 2 Unit 3 Unit	042 21 3677

Session information also available from most High School Subject Head Teachers.

Places are limited so register now!

All courses will be held at the University of Wollongong

Medical research at the University of Wollongong

Major medical research projects at the University of Wollongong were on show at a conference held on 6 June to coincide with a national Medical Research Week.

The University of Wollongong attracts well in excess of \$2 million of funding for research in medical related fields from government and industry.

These projects are underway across several departments and often have a multidisciplinary character.

Topics covered included research into diabetes, cancer, vascular diseases, exposure to lead, diet, genetic engineering, cataract and advanced polymer materials with medical applications.

The conference was opened by the newly-appointed Deputy Vice-Chancellor, Professor Peter Robinson.

The keynote address was given by the Executive Director of the Garvan Institute of Medical Research, Professor John Shine, who spoke on the Institute Approach to Medical Research Performance and Funding in Australia.

Speakers included Dr Kieran Scott, Treasurer of the Australian Society for Medical Research, one of the sponsors of the conference.

In his address, Professor Robinson commented that papers range from basic science to health issues in the community.

'This breadth of topics illustrates several trends in research and development that have emerged strongly over the past decade,' he said.

'The first is the ever-growing need to relate market requirements to basic science.'

'There is a need to harness both scientific and market innovation in a coherent fashion to ensure that two-way information flows lead to innovative science and technology and to the timely introduction of cost-effective and appropriate products and services into the community.

'The objective is to stimulate activity at both ends of the spectrum; not achieve philosophical dominance by one or the other.

'Issues of relevance and freedom of scientific enquiry need to be considered in the context of a holistic society in which there is a need to define roles so that we can all contribute to the

effective development of the overall system.

'The second trend is that towards research and development in a team environment rather than on an individual basis.

'There are those of genius who work most effectively in isolation. However, most of use find intellectual stimulation in the divergent views of others who approach scientific issues from a variety of perspectives.

'In addition, many of the main challenges, especially in areas such as Biomedical Research, are interdisciplinary in nature and require a variety of skills, expertise and resources.

'The challenge in any R&D environment, and especially in universities, is how to achieve this effectively.

'The achievement of critical mass in which individuals and groups of researchers can flourish requires inter-departmental and inter-faculty collaboration as well as strategic alliances with other institutions.

'It also requires clear focus and that most elusive of management skills – research leadership.

'We look forward within the University of Wollongong to the continued evolution of strong research institutes of viable size, adequately resourced and with a clear vision of their future role.

'The third trend in R&D management is towards more effective development of the shared vision.

'This, for example, has been one of the more difficult aspects of the Co-operative Research Centre (CRC) program.

'The challenge is to achieve what may appear to be separate agendas within one organisational and team structure.

'The answer often lies in a clear definition of core competencies and goals.

'Research groupings are effective when there is a synergistic intellectual approach, which provides a competitive advantage for groups of researchers to work closely together in related areas.

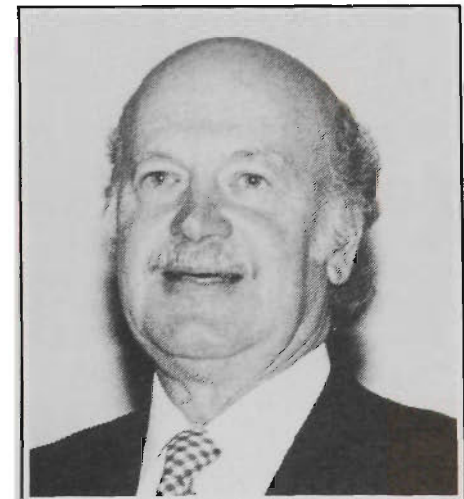
'It is the definition of those core intellectual competencies, approaches and properties which unite, not those which divide, the team which are crucial to developing a shared vision and



Professor Peter Robinson



Dr Kieran Scott



Professor John Shine

the achievement of agreed goals.

'The immediate future in areas such as Biomedical Research lies at the interdisciplinary boundaries, with the ingenuity of the individual researcher and with the skill with which an internationally competitive team environment can be created and managed.'

General

The Campus Alumni Bookshop will open on the second and fourth weekends of each month. Come and browse through a wide selection of preloved textbooks and fiction. Campus East, Cowper Street, Fairy Meadow (opposite Science Centre). All proceeds directed towards Campus projects. Donations of material are invited. Enquiries to Alumni Office, phone 213 249 or 291 951.

Long Gallery

Exhibition program for 1995:

What's On

Until 25 June: Mumblings – Patricia Procriv, Fiona Davies, Davida Wiley.
Country Blues – watercolours Jelle van den Berg; Landscape Aspects – Vivien Haley block and monoprints on fabric.

29 June-30 July: NAIDOC Exhibition – Works by Aboriginal artists.

3-27 August: Artist Made Furniture.

1-24 September: Postgraduate Works – Eileen Dillon Smith, Marcie McConville, Enis Tan, Taskin Gencag, Hue

Lin Zhu, Alan Spackman.

2 October-5 November: Arch-aeologies: Structures of Time – Diana Wood Conroy and Sharon Marcus.
Reciphering – Katharine Nix. Pathways – Paper works by Ian Arcus.

13 November-10 December: BCA Graduating Exhibition.

Union Activities

All members of the Union, students and staff are invited to attend.

27 July: Band Competition Final.

7 August: Union Art Award.

4-8 September: Union Week.

9 September: Union Dinner.

Cell and Molecular Evening Seminar Series

Conducted by the Department of Biological Sciences and Biological Macromolecules Research Centre

7 August: Professor Rolland Skollay (Centenary Institute), The Life Technologies seminar on T cell immunology.

14 August: Dr Simon Easterbrook Smith (University of Sydney), The BioRad seminar on complement regulation.

11 September: Professor Adrian Gibbs (Australian National University), The Bresatec seminar on virus evolution.

Held on Mondays from 6pm in the Department of Biological Sciences, University of Wollongong, Building 35, Room 105.

Inquiries, phone: (042) 213 013, fax: (042) 214 135.

Thai art works for display in McKinnon Building

As a result of an academic exchange which was organised by Pro Vice-Chancellor, Professor Bill Lovegrove, and supported by the Faculty of Education, a lecturer in Visual Arts Education, Mr Ian Brown, spent five weeks in January at the Prince of Songkla University (PSU), Thailand.

While in Thailand, he and a lecturer from the Education Faculty at PSU, Mr Woot Wattanasin, organised a joint exhibition of artworks created by the staff and students from both faculties.

The exhibition was very successful and well received in Thailand. It consisted of paintings, prints, silk paintings and traditional batiks.

These works have been brought back to Australia and will be mounted in the foyer of the McKinnon Building from 20 June - 2 July.

The Thai Consul-General, in Sydney, will open the exhibition on Tuesday, 20 June.

Thai Airways International has sponsored the exhibition and will mount a small display at the exhibition.

The sponsorship will cover the cost of printing, refreshments and transportation of the works.

The Thai Student Association will provide entertainment at the opening.

Maps of Wollongong available

International Graphics Pty Limited in Corrimal St Wollongong has donated 6500 maps of Wollongong to the University.

These maps are in the form of a fold-up brochure.

They highlight the major features of Wollongong and the attractions for visitors and show the location of the University.

They are ideal to send to visitors coming to conferences, meetings or to look at the University.

If you would like copies contact Fiona Biakie in Planning and Marketing, phone 213 248.

Campus News is published weekly on Wednesdays. Send material, preferably by Microsoft Mail or on disk, to E-Mail account 'Campus News' by noon on Monday of the week before that of publication.

For any other enquiries contact the Editor, Gillian Curtis (042) 21 3926. Campus News has a circulation of 3000. It is distributed on campus to staff and students. 1000 are mailed to the community and overseas including schools in Illawarra, southern Sydney and Canberra; local, Sydney and Canberra media; Friends of the University; business representatives; MPs and numerous individual requests.

Stop Press

Everyone is invited to the University Union Anniversary Celebrations

Honorary Happy Hour
Birthday Cake
Display of photographic history
Guest speakers

Friday 16 June 4.30pm
University Tavern

RSVP to Fran Walder
(042) 297 833