

# CoResearch

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CSIRO's staff newspaper



## CSIRO team joint winner in 1992 Australia Prize

**The Australia Prize, our home-grown equivalent of the Nobel Prize, has gone this year to a team of three CSIRO scientists and an Australian businessman.**

The achievement that gained them the prize is their development and marketing of a suite of instruments for measuring the concentrations of various minerals in raw materials as they move through troughs or along conveyor belts. (One of the best known of these is Coalscan, which measures the ash content of coal.)

The instruments help the mineral industry process its coal and other minerals more quickly and cheaply.

The winners are Mr John Watt, Dr Brian Sowerby and Dr Nicholas Cutmore, from the Lucas Heights Laboratory of the Division of Mineral and Process Engineering, who developed the technology, and Dr Jim Howarth, Managing Director of the Adelaide-based firm Mineral Control Instruments Ltd (MCI), whose company is marketing it.

Mr Watt is an Assistant Chief of the Division, in charge of the Laboratory, Dr Sowerby is the Research Manager of Instrumentation and Control, and Dr Nicholas Cutmore is the Senior Project Manager of On-line Analysis.

The technology grew out of basic research into radio-isotopes (unstable, radioactive elements) begun at the former Australian Atomic Energy Commission (AEC) at Lucas Heights in the early 1960s. With the reorganisation of CSIRO and the AEC in 1983, the research was transferred to CSIRO's Lucas Heights laboratories, where it reached its present point of sophistication.

Science Minister Mr Ross Free, announcing the prize winners on January 23, said they had 'brought about a technological revolution in the coal and minerals industries'.

'The on-line analysis of coals and minerals was considered almost impossible only three

decades ago, with instruments then being unwieldy, inaccurate and incredibly slow.'

The Minister made the point that the size of Australia's mining industry meant that even a small percentage increase in productivity translated into millions of dollars in export earnings.

He said the team's Coalscan ash monitor was a major commercial and technical success, with more than 100 sold before the end of last year, many overseas.

'These and related technologies,' he said, 'have wide application both here and overseas in the mineral industries. They also have broader application in other industries such as timber, tobacco and food.'

The citation for the award said that Watt, Sowerby and Cutmore had 'demonstrated an outstanding ability to translate fundamental research into practical applications, in response to the needs of their industry.'

'Dr Howarth,' it said, 'has shown vision, drive and management skills of the highest order in founding the manufacturing company

Mineral Control Instrumentation Ltd and establishing it as the leader in its field in the world.'

The new export enterprise has achieved total sales in the past two decades of \$50 million, with annual sales now exceeding \$10 million.

The widespread use of these instruments by mining companies and collieries yields productivity benefits estimated

at \$50 million a year in Australia alone, and \$90 million a year world-wide.

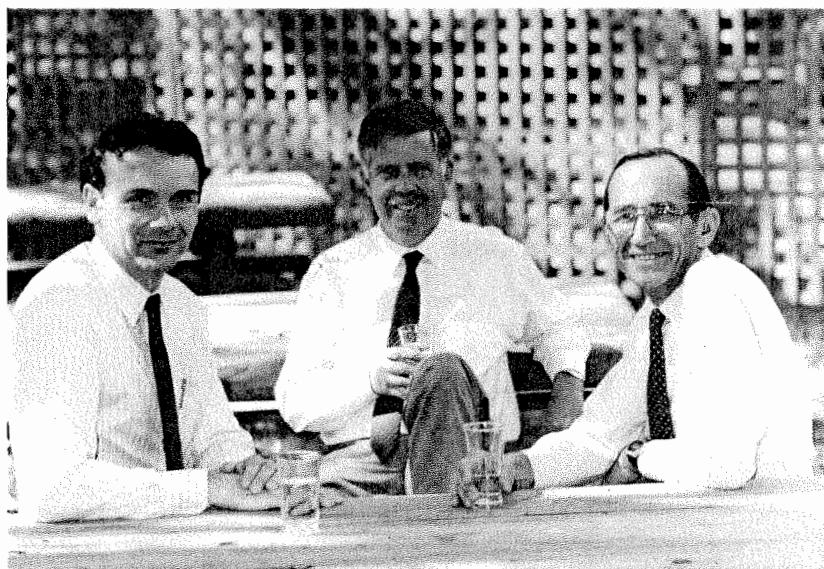
The prize came into being only last year, on the initiative of science champion Barry Jones. Its first winners were an international team, Professors Allen Kerr, Eugene Nester and Jeff Schell, for their work on the plant disease crown gall.

It aims to give recognition to an outstanding achievement in

science and technology promoting human welfare, under a category varying from year to year. This year's category was outstanding achievement in the physical sciences relating to the mining or processing of mineral resources.

In financial terms the Australia Prize is the nation's biggest, with a purse of \$250,000.

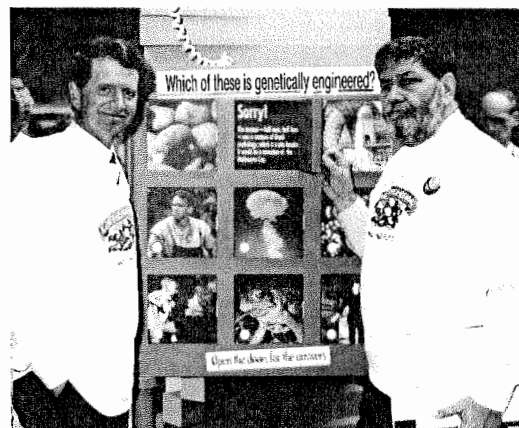
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Above, CSIRO's Australia Prize winning team, left to right, Nicholas Cutmore, Brian Sowerby and John Watt, of the Division of Mineral and Process Engineering's Lucas Heights Laboratory.

### New exhibition launched, the pink pig proudly flying

Opposite, the opening in Melbourne of CSIRO's new road show — 'Will Pigs Fly? The neatest correct entry in answer to the question posed in the photograph will receive a hand-lettered dismissal notice. The opening went well, and the genetic engineering exhibition, which aims to promote public debate and understanding, will continue on its way around the country. By the time you get this issue it will have visited Adelaide, and be about to open in Canberra. The venues are nearly all Westfield Shoppingtowns, ensuring plenty of public attention. (See page 6 for times and places.) The photograph was taken by Malcolm Paterson of CSIRO's Film and Video Unit, which also produced the exhibit.



## French Connections and The Grabber



Since the last issue of *CoResearch* I've been reminded just how far the neurones of this clever corporation really reach.

I went to France, and visited our Biological Control Unit at Montpellier. This laboratory was set up on the initiative of the Division of Entomology in the 1960s. The idea was to identify potential biological control agents — fungi, insects and the like — that could tackle pests and weeds introduced from Europe, or elsewhere, to Australia.

The station gives CSIRO the chance to study the natural behaviour of some of these introduced nuisances in their native environments, to look at the things that keep them in check, and to make painstaking quarantine studies of any organisms we might eventually introduce into Australia.

The lab has already had some great successes — biological control agents for skeleton weed, that scourge of wheat, and for blackberries, thistles, and Paterson's curse. They are also doing some extraordinarily important work breeding strains of wheat resistant to the Russian wheat aphid.

The Russian wheat aphid hasn't yet hit Australia, but it's certainly a looming possibility. It's already emerged in the United States as a grim threat to the wheat industry, but one for which we stand a chance of being well prepared, thanks to the work of these clever people in Montpellier.

I met David Briese, the Officer-in-Charge, Dr Siraj Hasan, a specialist on pathogens who is currently studying skeleton weed, and Dr Jean-Paul Aeschlimann, who is doing work on Russian wheat aphid and the nodding thistle.

CSIRO will expand its operations in Montpellier. At the moment we're housed in a series of sub-standard laboratories scattered around the city, but we recently reached agreement with the local council and the local community to buy a magnificent piece of land for

our new laboratories. With considerable help and support from the locals, we will construct a brand-new building there. As an added bonus the US Department of Agriculture is looking to centre its European activities right next door to us, on the adjacent site. I'm sure their decision has been influenced by the scientific reputation of the Australian group.

Together we will constitute an important new centre of biological control activity in Europe.

In France I also attended my first Board meeting of our joint-venture company, Gene Shears. Gene Shears is developing the technology discovered by scientists Wayne Gerlach and Jim Haseloff of our Division of Plant Industry in Canberra. Partners in the joint venture are the French company Groupe Limagrain and Johnson & Johnson.

Already the potential of Gene Shears to influence wide areas of biology — medicine, agriculture, fermentation technologies, plant breeding, food research, and others — is being examined in a number of important research projects, many of which have been funded by the company.

Another very gratifying spin-off of the collaboration with these multinational companies has been the recent strategic decisions of both of them to locate important research facilities in Australia.

If one of CSIRO's most important goals is to increase the amount of innovative research activity in this country, and to gain the commitment of big companies to that, then it's one goal that has already been achieved by the Gene Shears company. That's a credit to all of the participants, and in particular to Dr Jim Peacock. He had the vision and has been the champion of that enterprise.

Another interesting experience

I had recently was a two-and-a-half-day voyage on CSIRO's oceanographic research vessel, *Franklin*. I was appointed Officer-in-Charge of 'The Grabber', a fearsome tool for taking samples from the ocean floor.

We cruised in the seas off Sydney, studying the currents that control the deep-sea spread of sewage outfalls. Prosaic, perhaps, compared to the travel-agent/movie-maker image of a cruise, but extraordinarily important for planning the proper husbandry of our environment.

The fact that CSIRO is being commissioned more and more for work like this — I have in mind another recent and very important project in Port Phillip Bay — bears testament to our central role in the nation's thinking about ecologically sustainable development.

I was also recently at our Marmion Laboratories, hearing again about approaches to the enormous resource represented by the Western Australian fisheries. A highlight was a meeting with David Wright, a Senior Technical Officer with the Division's Pelagic Fisheries Research Program. David recently entertained the crew of a Japanese research vessel at an Aussie barbie at his house, as a personal contribution to improving international relations.

With Nick Alexander and Nick Pitsas of the Film and Video Unit, I've just finished the third edition of CSIRO Video News. The intention is that everyone in the Organisation should have the chance to see it — this one has an extended interview with the Chairman. So please complain to your Divisional Communicator or to me if it doesn't appear in your workplace soon!

## Letters to the Editor

Dear Editor,  
The favourable publicity that our Chief Executive is receiving has led many people to believe that the organisation is healthy and growing. But at least some parts are undergoing major surgery. The Division of Forestry announced about 25 redundancies last June. It appears that there will be even more in the Division of Animal Production.

With the economic recession, previously reliable sources of funds are drying up and many staff are wondering if they'll be on the next redundancy list.

This issue raises a number of serious concerns.

One is the effect on morale throughout the organisation of these out-of-the-blue redundancies. All staff need to be well informed of the true financial state of their Divisions and CSIRO as a whole. They should also be directly involved in the planning processes.

Another is the flouting (or perhaps ignorance) at divisional and institute levels of many of the high ideals in the CSIRO Human Resources Plan commissioned by the Board. For example, the Division of Forestry did not feel itself bound by this Plan. Surely 'improving CSIRO's age profile' does not mean selective use of redundancies to remove (more costly) senior staff! How seriously can we take John Stocker's statement that 'the application by line managers of the principles contained in the Plan will form an important part of their performance assessment'?

Future redundancies are inevitable, but without a genuine commitment at all levels to 'provide secure employment to staff who possess and effectively apply appropriate skills', CSIRO's name will be tarnished further and it will fail to attract or retain the best staff.

**Dr Tom Beer**  
Division of Forestry  
**Dr Mark Hibberd**  
OA Group Representative  
Division of Atmospheric Research

Dear Editor,  
Congratulations to CSIRO on appointing as Chairman an eminent scientist who also happens to be a woman.

I am, however, puzzled by the suggestion that Professor Adrienne Clarke is a role model only for women — as in the words of the Minister for Science and Technology, Ross Free, recorded for posterity in the official CSIRO media release: '... Hers is the kind of career young Australian women can look up to and hope to emulate.'

Yes, of course Professor Clarke is a tremendous role model for women, but isn't she also a role model for men?

If the new Chairman had been male, would CSIRO have made the equivalent blunder and had the Minister state that: '... his is the kind of career young Australian men can look up to and hope to emulate'? I certainly hope not.

**Nancy Mills Reid**  
Manager, Public Affairs and Communication  
Institute of Animal Production and Processing

*A nice point, and nicely turned. I think, on the whole, I too would have preferred him to say 'young people'. However, don't forget that CSIRO has a program — Women in Science — specifically aimed at providing adult female scientists as role models for young female students about to enter the work force. Should we dismantle it, and acknowledge our blunder?*

*To do him justice, I think Ross Free is guilty of no 'blunder'; he is simply taking the opportunity to use the media as a billboard for part of CSIRO's Equal Employment Opportunity policy, that of providing female students with female role models in the sciences. They have, after all, plenty of male ones, if gender is, as no doubt it ought to be, irrelevant to their choice.*

*For myself, I would have rather enjoyed reading 'Hers is the kind of career young Australian men can look up to and emulate' — Ed.*

**Dr John Stocker will be speaking at the National Press Club and National Science Forum in Canberra on March 11. His topic will be 'Australia's Economy: a Stool Missing a Leg?', and the talk will be broadcast nationally on ABC television.**  
**Be square-eyed or be square.**



Dr Hal Hatch, of the Division of Plant Industry in Canberra, last year became the first Australian to win the International Prize for Biology, presented by the Japan Society for the Promotion of Science. The award consists of a medal and 10 million Yen (over \$95,000 Australia). Dr Hatch's fare to attend the award ceremony in Japan was also paid. Emperor Akihito presented Dr Hatch with the Imperial Gift, a silver vase embossed in gold with the Chrysanthemum Crest (the symbol of the Japanese Imperial Throne). Dr Hatch was given the award for his work in uncovering a new chemical 'pathway' for the absorption of sunlight by plants, and unravelling its details. Until the 1960s it was thought that all plants absorbed sunlight through the same 'C3' series of chemical reactions. Hatch's experiments showed there was a second chemical pathway — the 'C4' pathway — that was used by some plants. It was then found that plants using the C4 pathway could out-compete plants using the C3 pathway. Important Australian crops, including sugar-cane, maize, sorghum and millet, are C4 plants. So are most of the world's worst weeds. They are able to grow faster than C3 plants and survive dry conditions better. 'It was perfectly reasonable,' said Dr Hatch, 'to assume that C3 was the only one. Nature doesn't often double up on a process that already works'. Above, Dr Hatch discusses his work with Emperor Akihito of Japan. In the background is Mrs Lyndall Hatch with Empress Michiko. ♦

## AAHL becomes world reference centre

CSIRO's Australian Animal Health Laboratory (AAHL) at Geelong in Victoria has been made an official world reference centre for avian influenza and Newcastle disease.

This means that AAHL has been recognised by the International Office of Epizootics (the official inter-governmental body recording exotic diseases in most countries of the world) for its research and training capability in these two poultry diseases.

Until now the Central Veterinary Laboratory, at Weybridge in the UK, has been the only reference centre in the world for the two diseases.

Deputy Head of AAHL, Dr Tony Della-Porta, said that scientists at AAHL have been at the forefront of research into

both diseases. They have developed new diagnostic tests, and one of these, for Newcastle disease, has been accepted as the Australian standard and is gaining international recognition.

The announcement follows AAHL's designation as a world reference centre for bluetongue, announced in late 1990. AAHL is also the Rabies Reference Laboratory for Australia and New Zealand, the Australian Fish Health Reference Laboratory and the National Brucella Reference Laboratory.

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## Ebbe Nielsen wins medal

Dr Ebbe Nielsen of the CSIRO Division of Entomology has won the 1992 Ian Mackerras Medal for excellence in the study of insects. The Medal is awarded twice a year by the Australian Entomological Society. Over the years he and his team have helped the conservation cause considerably with their surveys of insect communities. Dr Nielsen is active in many groups, including the World Conservation Union (IUCN).

## Clunies Ross Award for Michael Rickard

Late last year Dr Michael Rickard, Chief of the Division of Animal Health, was presented with the Clunies Ross National Science and Technology Award for his work on the development of a vaccine to protect sheep against the parasite *cysticercus ovis*.

It is a new award, named in honour of Sir Ian Clunies Ross (Chairman of CSIRO for 10 years from 1949), and aimed at creating scientific heroes.

Dr Rickard was one of seven recipients of these inaugural awards, which were presented by the Governor-General Mr Bill Hayden, at a dinner held at

Clunies Ross House in Parkville, Victoria.

'What I like about the award,' said Dr Rickard, 'is that it is not for science alone, but for the pursuit of research right through to its commercial application.'

None of the other heroes was from CSIRO.

♦♦♦

## Automotive Centre CEO

Mr David Lamb has been appointed Chief Executive Officer of the new Australian Automotive Technology Centre (AATC) in Melbourne, a joint CSIRO, government and industry venture established to enhance Australia's international automotive competitiveness.

Mr Lamb has more than 20 years' experience with Ford Australia, most recently at Ford Li Ho in Taiwan as Director of Supply, where he was pivotal in the plant's success during its expansion.

He sees his new role as that of an R&D catalyst, helping

Australian automotive manufacturers to meet tougher world demands by giving them access to the research they need.

'The AATC will act as a broker between industry and research bodies to match a resource to a need,' Mr Lamb said.

'The AATC will demonstrate that bodies like CSIRO are practical, hands-on resources which are good value for money, and that their expertise is best used throughout the planning process rather than after problems are discovered.'

The new Centre will operate out of CSIRO's Division of Manufacturing Technology in Preston. Its activities will include short-term consulting, long-term R&D projects and generic research in areas identified as vital for international success. ♦

## Queensland loses 30 jobs

Funds coming in to the Division of Tropical Crops and Pastures, from both the public and private purses, will soon be so reduced that they have decided to cut about 30 research positions to keep top priority research projects going.

Chief of the Division, Dr Bob Clements, said he deeply regretted the need to cut jobs. 'However,' he said, 'if the Division is to maintain a high level of research skills with sufficient funds to allow effective research to be done, this is the only option.' he re-affirmed the Division's commitment to increasing its research on sugar-cane and on the environmental aspects of agricultural production.

'We consider that all of our research is important, but to achieve our research goals over the next decade we need to focus on top priorities. Unfortunately lower priority research will need to be dropped.'

Dr Clements said some forced redundancies would be inevitable, but that 'unlike many other organisations, there will be no sudden announcements of immediate staff cuts. We will work steadily to achieve a gradual reduction in staff numbers.'

The reduction will take two or three years, and will be eased to

some extent by retirements, non-renewal of term contracts and voluntary redundancies.

The Division will be re-allocating resources to research in the 'growth areas' of sugar-cane and the environmental effects of agricultural production. The Townsville laboratory will attract a large share of this re-allocation.

The Division expects its income to fall by 9%, or \$1.5 million, over the next financial year.

By 1995-96, forward projections estimate that —

- appropriation will fall by \$1.45 million,
- External funds will fall by \$2.03 million, and
- Total income will fall by about 20%.

Appropriation funds are falling because of the efficiency dividend, changes in national research priorities, the loss of the May Statement funds, and the new Institute capital works fund.

Also, the recent award restructuring means that staff salaries will increase faster than

before, and this will increase salary commitments.

External funds are falling because of the rural crisis.

Of course the cuts have affected the morale of staff working at the Division.

This month research and research support staff are being invited to submit assessments of the value of their own work, and the work of others, on a point scale against set criteria, to the Division's Management Committee.

The data collected will be publicly displayed at each site for further comment by staff members.

The results will influence the Management Committee's decisions to expand, reduce or terminate research projects.

Dr Clements reminded staff that the Division had a proud record in managing its affairs, and urged them to 'make this painful period no exception.'

'Please participate responsibly in planning for your Division's future.'

'And please keep an eye on your mates.' ♦



# What are we doing about blue

**Dr Kath Bowmer is Assistant Chief of the CSIRO Division of Water Resources. She is also one of our leading in-house experts on blue-green algae and eutrophication (nutrient enrichment of water), and just this month she has been asked to represent our Organisation on a new national body being set up to gather together the hundreds of scattered strands of research relating to the topic.**

The new body is called the National Algal Task Force on Blue-Green Algae. It has been set up by the Management Committee of the Australian Water Resources Council (AWRC) as a result of discussions at their December meeting last year.

The hope is that the various research strands might be woven together to make something we could use to 'deep-clean' our rivers, and keep them that way.

Because apparently this is not the sort of dirtiness that is going to be easy to wipe out. Dr Bob Wasson, Program Leader, Division of Water Resources (Canberra Lab), said last month that the recent flooding rains had not flushed the problem away as many had hoped.

'Even if we could switch off all phosphates entering our rivers today,' he said, 'the problem would be here for another generation. The next dry year, these phosphates will be released and the toxic blooms will be back in force.'

Well, CSIRO did recently throw quite a bundle of money at the problem. Professor

Adrienne Clarke's first public announcement on her accession to the chairmanship early in December last year was of the Organisation's decision to double its funding for research into algal blooms. Over the next three years the total amount will now be \$6 million instead of \$3 million. And that should help.

The money will go to three CSIRO research units: the Division of Fisheries, the Division of Water Resources and the Centre for Environmental Mechanics.

Details of the split-up are still some way off, however. Dr Wasson said a committee is just now being formed to decide where the money will actually go, taking into account similar 'blue-green' funds from other bodies.

This CSIRO committee will be chaired by Dr Graham Allison, Chief of the Division of Water Resources, and will include representatives from the Centre for Environmental Mechanics and the Division of Fisheries. It will rely heavily on advice from water resource management agencies.

The group will make sure that

its priorities are consistent with those being identified nationally by the AWRC Co-ordinating Board for Blue-Green Algae Research. CSIRO will be represented on that Board by Kath Bowmer.

The AWRC has created a new position: National Project Manager for Algal Bloom Research. They have appointed Dr Phillip Johnstone, of the Victorian Rural Waters Commission, to the new position.

Dr Johnstone is responsible to the AWRC Board, and he will be invited to CSIRO's priority-setting exercise for blue-green algae research.

The AWRC Board will make recommendations about research priorities to the groups represented on it, but each group will control its own purse.

(The groups represented are the Land and Water Resources Research and Development Corporation, the Murray-Darling Basin Commission, the Urban Water Research Association of Australia, and CSIRO.)

The AWRC Board will also

help to co-ordinate research.

'The intention,' said Dr Wasson, 'is to attempt to establish a research strategy, and to identify gaps in the knowledge that we currently have, and then ask for bids to fill those gaps.'

Dr Bowmer has identified six main headings of relevant CSIRO research: catchment management; sewage treatment/resource recovery; nutrient sourcing; land-water interface; production and control of blooms; and water treatment.

Many CSIRO Divisions and units are involved in the various projects whose work falls into these categories. They include Animal Production, Forestry, Soils, Mathematics and Statistics, Chemicals and Polymers, COSSA (CSIRO Office of Space Science and Applications), and a group of CSIRO people working at the Murray-Darling Freshwater Research Centre, as well as the Divisions, already mentioned, of Fisheries and Water Resources and the Centre for Environmental Mechanics.

Dr Bowmer said there is undoubtedly relevant work going on in other Divisions.

She said the hot issue of possible over-use of phosphate fertilisers by farmers would fall under the 'catchment

management' heading.

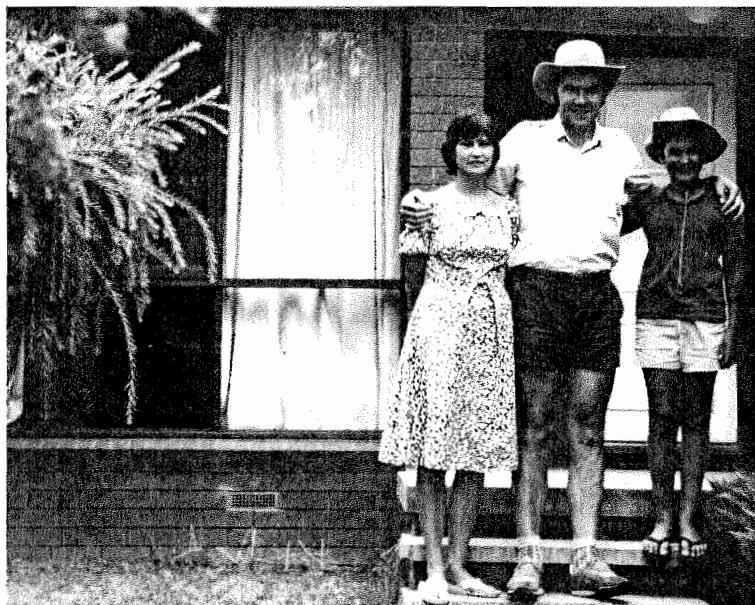
The 'sewage treatment' heading is fairly clear.

'Nutrient sourcing' is finding out where the 'nutrients' — that is the foods that are helping the algae bloom so vigorously — are coming from. 'It's really hard for a land manager to know,' said Dr Bowmer, 'which source to tackle first, which would be the easiest, or cheapest, to fix. It may be sewage, or it may be fertilisers. Irrigation drainage, stormwater runoff, or intensive animal industry, may put nutrients into the river system.'

Dr Bowmer said that one important element of the business of 'nutrient sourcing' was simply better monitoring of the waterways. She said a lot of the data, particularly for the more remote areas of Australia, were 'pretty scratchy'. There were so few data collection points, and the nutrients were so quick to change or disappear. 'They're so transient,' she said, 'they get captured by sediments and plants, as well as the algae themselves, and nitrogen can be lost as nitrogen gas into the atmosphere, and so on. So a weekly or monthly sample is not very helpful.'

'There's another angle on that,' she said. 'Apparently different sources of superphosphates have different

## and in particular ...



Above, Doctors Lilian and Vladimir Matveev, visiting Russian scientists, and their son, Denis.

**For the moment, at least, CSIRO has two genuine Russian scientists on strength. The two Doctors Matveev, Lilian and Vladimir, are working at the Division of Water Resources in Griffith, helping Australia find a solution to the algae crisis.**

They will be with us at least until June, and possibly beyond, depending on funding.

Both scientists specialise in the minute water plants and animals known as phytoplankton and zooplankton. Their project is part of a larger one on blue-green algae, run by Water Resources scientist Dr Gary Jones.

This larger project takes a wide view, looking at why algal blooms form, why they are sometimes poisonous, and what specific methods of biological control we might use against them.

The work of the Matveevs is focused more narrowly. They are finding, studying and manipulating the tiny living things in the local water.

The aim of one strand of their

research is to find animals that are resistant to the poisons of the blue-green algae, and can use them as food, thus keeping the algal blooms in check.

'The species of zooplankton here are different from those we have in the northern hemisphere,' said Vladimir Matveev, 'so we have first to identify which ones are the most efficient grazers on blue-greens, but I suspect a number of them may be used to suppress algal blooms.'

'And the next area we are trying to, well, just to approach, really, because the period of time we are spending here is so very short, is biological manipulation.'

'We fill about a dozen big tanks — about 3,000 litres each — with local water, the water



# Blue-green algae? in general ...

'fingerprints', so that it may be possible to tell where the phosphorus in a river has come from, like taking fingerprints at the scene of a crime.

'Then there are 'lipid biomarkers', as they're often called. They're cholesterol-like compounds, and if you find them in sediments it means there's been some animal pollution, like sewage, because these compounds are only formed in the guts of animals.

'There's another complication. One of the real problems is knowing whether the sediments on the bottoms of rivers and estuaries have a store of phosphorus that they'll release continuously. It's all very well to establish the sources of nutrients, but what's not known is whether those nutrients are immediately scavenged by the sediments and then later released. So merely monitoring the nutrients in the water isn't really telling you very much.'

The 'land-water interface' heading, Dr Bowmer said, referred to the fringing wetlands, and similar areas, that needed to be nurtured.

She said that CSIRO has the capacity to do quite a lot, under the heading of 'production and control of blooms', in the area of toxins (poisons) as such. 'You have to realise,' she said, 'that there are algal blooms and algal blooms; some are toxic and some are not. We want to find out why. What turns the toxins on? What happens to them in the water? How quickly

do they degrade? That's important — do you have to store your water for three weeks, three days or three hours before it's safe to drink?'

The last of her headings, 'water treatment', includes research into such areas as the use of polymers and resins for toxin removal and the development of new algicides.

...  
'A lot of what I've been talking about,' said Dr Bowmer, 'is about controlling nutrient sources — reducing fertiliser use, diverting sewage away from rivers, or taking the nutrients out of the sewage before it's diverted, that sort of thing. That's a kind of bottom-up management: the fertiliser drives the growth of the algae, and you can work your way up the food chain to the fish eating everything at the top.'

'But another approach to the whole thing is a sort of top-down management approach — managing the fish and grazing organisms rather than the nutrients.'

As far as general approaches to the problem of the sully of our river systems are concerned, Dr Bowmer said it was relevant that households around the country had taken enthusiastically to the use of small water-purifying containers in an attempt to make sure their own drinking water was safe. It suggested a possible strategy.

'It would be an interesting cost-benefit analysis, and one

that could be done reasonably easily. Should we live with the problem and just use charcoal filters, or whatever, to get the toxins out of the water before supplying it?

'But then you've got a

degraded resource, in which the whole ecosystem's upset. As an individual, a member of a rural community, I'd probably not be very happy with that approach.'

As far as the household water-purifiers themselves went, Dr

Bowmer remarked that the major water suppliers disliked them. They liked to be in control of the quality of the water people were drinking, and they feared that bacteria might grow in the filters.



Above, Dr Kath Bowmer, Assistant Chief of the Division of Water Resources, who is going to help in Australia's attempt to manage the blue-green algae problem.

used for irrigation and drinking. Then we adjust the level of nutrients to simulate the conditions in lakes that have problems with blue-green algae.

'Then we add chosen zooplankton communities and watch how they cope with the algal blooms, whether they are able to keep the water pure by grazing on the algae, or not.

In another series of experiments the Matveevs are adding fish known to feed upon these zooplankton communities, such as the fingerlings (young) of carp and redfin. This strand of the work is an attempt to evaluate the role of such fish in encouraging algal blooms, since it is thought that when they reduce the zooplankton communities the blooms go out of control. In other words, the fish are grazing out the animals that graze out the plants that are making us sick.

Or at any rate, that's the current theory. How it actually works out in practice is what the

Matveevs are testing in their big tanks at Griffith. But overseas experience is promising.

'In many parts of the northern hemisphere,' said Vladimir, 'they have removed planktivorous fish from a lake or reservoir, and very often found an improvement of water clarity.'

'Sometimes it doesn't work, but that's another question: there are a great many complicating factors.'

...  
• The Matveevs have their only son, Denis, here with them. He is twelve years old, and Vladimir hopes he too may become a scientist.

'At least,' said Vladimir, 'I want him to become a professional computer programmer, to help me soon in my work.'

'In Moscow we have different special schools for advanced training in a particular subject, for example, English, Biology, Sport or Art. I put my son in a

special mathematical school, to gain a certificate in computer programming.'

The couple prefer to remain in Australia beyond June, but of course that will depend on funding, whether from CSIRO or elsewhere.

'I'm pretty sure,' said Vladimir Matveev, 'there will be no appropriate job for me in Russia, because there are no good facilities there any more. Besides, I formerly worked abroad; I've worked in Germany, and Argentina, and I prefer it that way. If I go back to Russia now I will definitely not have much chance to travel, because of funding constraints.'

'It's difficult to say what the changes in Russia will lead to. Nobody ever predicted the consequences of the August coup — that all of a sudden the whole Communist system would collapse. Nobody would predict that such a terrible, terrifying system, a very solid basis, would be — all of a

sudden — ruins! So it's difficult to say.

'There is now a lot of talk about another coup, which would be of the people who are not satisfied with their living standards, a people's coup, rather than a Communists' coup.'

'I am not expecting anything good in Russia, at least within the next 5 to 10 years. That's why I would prefer to work for at least a while somewhere else.'

'It's difficult to do science without money.'

Lilian Matveev is also pleased to be in Australia rather than in Russia at the moment.

'Fortunately,' she said, 'we have our son with us, and that makes it much better. Only our parents now live in Russia.'

'I think the situation in science in Russia is very hard, because lots of fundamental research has been cut, and because there is a lack of hard currency.'

'I don't know exactly what's happening this month, but two

months ago we received letters from our colleagues, and they wrote that probably one third of the Soviet Academy of Science will be cut. The Academy of Science was the main scientific organisation for the whole former Soviet Union, employing many thousands of people. Our Institute alone employed about 1,000, and if one third of them will be without a job, it's not good.'

'To tell the truth it's very difficult to understand the situation in Russia from here. Your newspapers don't give precise detail, and we don't know a lot of the parties that have grown up in our absence. But I'm sure that now life in Russia is very hard.'

(The Soviet Academy of Science is now the Russian Academy of Science, and the 'rationalisation' of staff is expected to be on a large scale.)

## CSIRO libraries provide us with...

... books. Right. But don't forget about Scanfile! Scanfile is a service provided by the Corporate Library and Information Service (CLIS), consisting of a weekly collection of carefully selected abstracts of articles from various current journals and magazines of likely interest to CSIRO personnel. It offers a quick crib of the current popular literature relating to science policy and science management, and is a clever way of keeping abreast of the main issues and shifts of opinion if you've too little spare time for the reading you really ought to be doing.

You can subscribe to the weekly hard-copy version, from which you can then order photocopies of any article that interests you, or you can ask your Divisional Librarian to search SCAN (that's the Scanfile database on CSIRO's Australis system) for articles on a particular topic.

Total Quality Management, for example, or TQM to its friends, is a topic that has recently attracted much attention. The CLIS has been collecting TQM information for the last couple of years. Of course it's all on

Scanfile, but CLIS has also prepared a bibliography on the topic — because of its recent rise in popularity — which it completed last year. The bibliography has 34 references, complete with abstracts. (If you're interested check with Ramon Cornejo-Rios, Reference Librarian, on 06 276 6266.)

...

There are fashions in journal articles as there are in most consumables, and the CLIS has recently conducted a survey of the most popular (i.e. most requested) topics among those they offer through Scanfile.

As above, TQM was very popular. Others that made the Top 40 were how to become an influential manager, the organisation benefits of mentoring, mapping group morale, commercialising technology, and inspiring others (the language of leadership).

The two most popular articles of all were called 'A solution to the performance appraisal feedback enigma' and 'Star light, star bright, won't someone tell me my work's all right?'

(The concept of the moment is

'best practice', for which check current and upcoming Scanfiles.)

From these data we can probably make a shrewd guess as to which staff groups are making the most use of the abstracting service, but Margie Enfield, head of CLIS, said they offered an interesting contrast to results she got from a similar survey three years back.

At that time, said Ms Enfield, the emphasis was on general management issues rather than 'the specifics of now'.

'It's the 'people' side of things,' she said, 'the 'human' bit of 'human resources management' — that is now emerging as very important for all managers to be concerned with.' ♦

## Pigs will fly at the following times and places (subject to alteration, of course).

Canberra, Westfield Shoppingtown, Belconnen, March 11-14.

Wollongong, Westfield Shoppingtown, Warrawong, March 26-April 6.

Sydney, Royal Easter Show, Randwick, April 10-21; Westfield Shoppingtown, Hurstville, April 23-May 6; Westfield Shoppingtown, Parramatta, May 7-18.

Brisbane, Westfield Shoppingtown, Indooroopilly, May 21-June 3; Westfield Shoppingtown, Toombul, June 4-16.

Dalby, Moree, and Narrabri, dates and venues not yet decided.

Adelaide, The Investigator Science Centre, mid July-end October.

Melbourne, Scienceworks, Spotswood, November '92-Feb '93. ♦

## Three Division of Animal Production scientists honoured

Three scientists at the Division of Animal Production have recently been honoured with awards. They are Dr Bruce Sheldon, Dr John Black, and Dr Bill Panaretto.

Dr Sheldon has been elected as a Fellow of the Australian Academy of Technological Sciences in recognition of his long and distinguished contribution to poultry genetics and the poultry industry.

This contribution ranges from the theoretical development of novel selection methods to the delivery to the industry of unique high-performance egg-layers.

...

Dr John Black won the 1991 Urrbrae Award for his contribution to the field of animal nutrition. Black was responsible for the development of the world's most advanced computer simulation model for putting together scientific knowledge to improve the performance of animals.

Known as AUSPIG, the

model has the potential to greatly increase the profits in pig production.

The software was released commercially in July 1990.

Dr Black's future research will be aimed at applying these principles to the beef feedlot and grazing sheep industries.

...

Dr Panaretto was one of five nominees for the Wool Foundation's Eliza Forlonge Medal. He didn't win the medal itself, but was given honorable mention for his contribution.

His citation said that Panaretto's 'discovery and development of the use of murine epidemal growth factor for the biological harvesting of wool is likely to revolutionise the Australian shearing industry in this decade'. ♦

## Study Award for Heather Webster

Ms Heather Webster, Manager of Communication and Business Development at the CSIRO Division of Soils in Adelaide, has won a Duke of Edinburgh Study Award. It will enable her to attend the Seventh Commonwealth Study Conference in the United Kingdom from July 10 to July 25 this year. Ms Webster was selected as one of 22 decision-makers from Australia, chosen from 650 applicants. The Conference, to be held at Oxford University, has as its theme 'International Issues: Individual Initiatives'.

♦♦♦

## Caption Comp



'All we need now is the tunnel', from Tony Murphy of the Division of Horticulture, was an easy winner. Runners-up are Mike Lacey, from the Division of Entomology, with 'It is vitally necessary to keep the matter and anti-matter separate!', Sam Brumale, Division of Building, Construction and Engineering, with 'Oh no! I've materialised at a CSIRO seminar ... Quick ... Beam me up, Scottie!' and Lynn Pulford, Science and Careers Education, with 'Being editor of CoResearch gives one a warm glow'. What, no Florence Nightingale captions? I know that's going back a bit, but we are supposed to be an ageing population. Here's another for you to try your wits on. (It may not look it, but it is a picture of CSIRO work; see page 8.) Remember, I'm always looking for photographs that would make good caption material, so if you come across any ...



## Medal for Rex Oram

Dr Rex Oram, Program Leader for pasture research at the CSIRO Division of Plant Industry, has received the Australian Medal of Agricultural Science for his work on crop and pasture breeding.

Dr Oram was instrumental in the release of the first winter-active variety of phalaris (canary grass).

Two medals are awarded each year by the Australian Institute of Agricultural Science, an organisation of professional agriculturalists, for outstanding achievements in agricultural science.

Dr Oram also developed

Holdfast phalaris, with a yield up to twice that of other phalaris cultivars. It also seems to be more resistant to acidity and has competitive winter yields.

At the moment Dr Oram is working on developing phalaris and barley varieties that will be more tolerant of soil acidity and salinity. Such varieties would be a great boon to Australia's agricultural industry. ♦

# Maybe some countries are just too clever for their own good ...

CSIRO's Public Affairs Unit has just published its sixth Occasional Paper — the edited transcript of the 13th David Rivett Memorial Lecture, delivered in Canberra last year.

The paper was given by Professor Nathan Rosenberg, Professor of Public Policy, Department of Economics, Stanford University.

Professor Rosenberg is an international expert on the economic aspects of R&D and the impact of technological change on both private and public policy.

He begins his paper with the news that recent American studies show an inverse correlation between a country's economic performance and its ability to win Nobel Prizes in the hard sciences, Physics and Chemistry.

In plain words, the countries that are making the most money are winning the fewest Nobel Prizes, and vice versa.

Professor Rosenberg says that these results have been 'received with considerable surprise in some circles', and that some of his Stanford colleagues 'expressed disbelief on being told of this inverse correlation'.

'We are surprised, it seems to me,' he says, 'only if we take it

as axiomatic that leadership in research at the scientific frontiers is a necessary and sufficient condition for superior economic performance. ... a moment's reflection ... should give rise at the very least to scepticism.'

'He points out that Japan has won only five Nobel Prizes since the awards began in 1901, a small fraction of the number awarded to scientists associated with one laboratory in Cambridge, the Cavendish Labs. Cambridge alone, he says, has received more Nobel Prizes in Science than all of France.

...

The really contentious issue with the Rivett Lecture, however, is not what is said, but how it is said. Rodney Teakle, CSIRO's Archivist, finally settles that debate for *CoResearch* readers ...

Sir David Rivett is one of the most significant figures in CSIRO's history. He was the Chief Executive Officer from 1927 till 1945, and the Chairman, from 1946 till 1949,

of the Council for Scientific and Industrial Research (CSIR, the immediate predecessor to CSIRO).

Unfortunately, some people are not aware of the correct pronunciation of the name Rivett when referring to Sir David. In his case, Rivett is pronounced to rhyme with pivot, trivet and rivet.

Rohan Rivett, Sir David's elder son, wrote in his biography of his father —

'David himself followed his father in pronouncing the surname Rivett as if there were only one 't'. All his sisters and his brother and their children and grandchildren allowed for the second 't' to rhyme with 'pipette' or 'quartet'.'

So, we have a case of one family but two possible pronunciations of Rivett depending on the person in question. Rohan Rivett did not use Sir David's pronunciation; he preferred the 'pipette/quartet' version. John Philip [see page 8] summed it up in a review of Rohan Rivett's biography of Sir David with the following:

You've got to give it  
To Sir David Rivett  
He took time off to beget  
Mr Rohan RivETT



OK, so you've seen the sheep that removes its own fleece. But have you seen the upgraded version? The one that is insect-repellant throughout its life and drops a fleece at your feet that is already moth-proofed? Well, it's not actually on the market yet, but the Division of Animal Production in Prospect is working on developing a sheep whose skin secretes an insect deterrent. It just might mean the end of lice and blowfly problems for sheep in the field, and the end of moth-holes in stored woollen garments. And that could be quite a tonic to the failing wool industry. Above, Science Minister Ross Free helps restrain (or is that holds at arm's length?) a self-shorn sheep, during a tour of the Division's Prospect site. Left to right, Mr Peter Stockwell, Dr John Black, Assistant Chief, Dr Oliver Mayo, Chief, and Mr Free. The photograph was taken by the Division's Phil Potter.

## Manufacturing Month

Do you know this is Manufacturing Month?

Well, it is the first time we've done it.

CSIRO has designated March 1992 as 'Manufacturing Month' in an attempt to draw attention to the work the Organisation is doing for the manufacturing industry.

There will be a series of

business breakfasts in Melbourne, Sydney and Adelaide, and a glossy promotional booklet called 'Manufacturing Month', featuring a front-page article by CSIRO's Chief Executive Dr John Stocker, has already been produced and distributed.

By the time you read this, Dr Stocker will have launched the Month at a breakfast with the theme 'Manufacturing Excellence pays Dividends' in Melbourne on March 3.

The Business Review Weekly is to be host at some of the breakfasts and CSIRO at others, and guest speakers will also be provided by both organisations.

Topics to be covered range from technology that can improve the profits and international competitiveness of manufacturing enterprises to ways of supporting emerging industries that will generate wealth for Australia.

Target audiences include Chief Executives and Directors of manufacturing enterprises, investment advisers and middle managers seeking to improve their product lines or manufacturing processes.

The March edition of CSIRO Business (a regular insert in the Business Review Weekly) is dedicated to manufacturing.

The project is funded by \$50,000 from CSIRO's Special Events Fund.

The program is being co-ordinated by a sub-committee of the CSIRO Communication Working Group (CWG), and the point of contact if you have any questions, or need a copy of the program, is Irene Irvine, on phone: 03 542 2894, or fax: 03 542 2981. ♦

## National Research Priorities reading list

In December last year CSIRO's Corporate Planner Dr Don MacRae was one of the main guest speakers at a high-level management conference in Sydney.

The conference was titled 'The Role of Management in Commercialising Research and Technology', and Dr MacRae spoke on the setting of priorities for a research and development organisation.

Of course he used the speech to help spread the message of CSIRO's own recent priority-setting exercise to his audience of senior managers from both public and private sectors.

That exercise, and the priorities it produced, have attracted a great deal of public attention — *CoResearch* had far and away more outside enquiries on its coverage of CSIRO's National Research Priorities than it has had on any other story in recent years.

Dr MacRae has been one of the key players in the exercise from its inception. He said that part of the role of the Corporate Planning Office, which he heads, was working with the Organisation's Institute Directors and Institute Planners to help the Chief Executive, Dr John Stocker, deliver the message of how CSIRO is setting its research priorities. He said the

Organisation had been getting requests for information on the exercise from both national and international organisations.

So he thought it might be time to offer CSIRO's other 7,000 'ambassadors' his reading list on the topic, which appears below. It is incomplete, being his own collection only, and he would like *CoResearch* readers to add to it if they can. Are there any Divisional reports, for example? He is eager for any articles that might have been published in Divisional newsletters, or written in response to outside requests for information on the topic.

### CSIRO's Priority-Setting Exercise

**Reports and Articles**  
(in chronological order)  
Stocker, J.W., *We deliver!* (Priority Paid), (*CoResearch* No. 334, September 1990).

Stocker, J.W., *Priority Setting in CSIRO*, (ASTEC/ARC Seminar, Canberra, October 1990).  
CSIRO Corporate Planning Office, *Performance Measurement and Evaluation in CSIRO*, (extension of paper for Management Improvement Advisory Committee submission to the Management Advisory Board of the Australian Public Service, Canberra, October 1990). (Dr Stocker used this paper for a lunchtime presentation to seven

Commonwealth Department Secretaries.)  
Stocker, J.W., *CSIRO on the Move*, (NSTAG 90 Conference, Science and Technology Creating Wealth for Australia, Canberra, November 1990).  
CSIRO Corporate Planning Office, *CSIRO Priority Determination 1990 / Methodology and Results Overview*, (Canberra, January 1991).  
Stocker, J.W. and MacRae, D., *Whither Agricultural Research in CSIRO*, (Journal of the Australian Institute of Agricultural Science, Canberra, February 1991).  
Stocker, J.W., *Let's tackle this thing head-on! (Uh, which end is the head, actually?)*, (*CoResearch* No. 338, February 1991).  
*Research priorities released*, (*CoResearch* No. 338, February 1991).  
CSIRO Corporate Planning Office, *CSIRO Priority Determination 1990 Role Statements*, (Canberra, March 1991).  
CSIRO Corporate Planning Office, *CSIRO Research Priority Determination*, (OECD Committee for Science and Technology Policy Newsletter, Paris, April 1991).  
CSIRO Corporate Planning Office, *Setting Priorities and Planning for Outcomes*, (paper

for Management Improvement Advisory Committee Seminar, Management for Performance, Canberra, April 1991 and Melbourne, May 1991).  
CSIRO Corporate Planning Office, *Assessing Research Options at the Divisional Level*, (a case study for Division of Animal Health Planning and Advisory Committee, Canberra, May 1991).  
Stocker, J.W., *The Australian Beef Industry: Facing up to the Future*, (Occasional Paper No. 5, Canberra, June 1991).  
*Priority Rules, OK!* (interview with Dr Hugh Tyndale-Biscoe, Assistant Chief of the Division of Wildlife and Ecology, in *CoResearch* No. 341, June 1991).  
CSIRO Corporate Planning Office, *Planning and Evaluation in CSIRO Australia*, (R&D Evaluation Newsletter, Centre de Prospective et d'Études, Paris, June 1991).  
*Priority projects for this year*, (*CoResearch* No. 342, July 1991).  
Pik, A.J., *Priorities? What Priorities?*, (*CoResearch* No. 343, September 1991).  
Kretschmer, G., MacRae, D., and Young, R., *The CSIRO Priorities Process and its Implementation*, (National Evaluation Conference, Adelaide, October 1991, and Corporate Planning Office, Canberra, October 1991). ♦



# John Philip retires

The man whose trail-blazing work has affected the design and operation of irrigation schemes around the world has retired formally after a career that began in CSIRO 45 years ago.

John Philip, the first CSIRO Fellow, revolutionised scientific understanding of the way water moves through soil.

Dr Philip was the first Chief of the Organisation's Centre for Environmental Mechanics, where he reigned for 16 years, and ranks among CSIRO's five longest-serving members. His career has been marked by brilliant scientific papers, honours from institutions here and abroad, and some controversy.

The Centre is recognised as a world leader in the investigation of processes in the physical environment.

Philip pioneered the concept of the soil-plant-atmosphere continuum, and led a generation of scientists into treating these three as an integrated whole. (A practical example is the planting of trees in dry areas to improve village climates.)

John Philip was a child prodigy. He qualified for university at 13 and graduated from Melbourne University at 19 as a Bachelor of Civil Engineering. Too young to be paid an adult salary as an engineer with the Victorian Government, he became instead a graduate assistant in agricultural engineering with the University of Melbourne and the old CSIR.

In 1951 he joined CSIRO's Plant Industry in Deniliquin, where he and his wife Frances (Fay) lived in a tent because of

the housing shortage. The years that followed saw the beginning of a steady flow of scientific papers that has continued unabated.

His work transformed the understanding and work practices of engineers and scientists designing irrigation systems. For the first time, they had before them a clear set of principles for operating an effective scheme making maximum use of available water and taking into account the individual characteristics of a particular piece of land.

John Philip first came to Canberra in 1959 to head the Agricultural Physics section of CSIRO's Division of Plant Industry. Perhaps because of his early start in youth, he was ever a great man for beginnings. In 1972 he was appointed foundation Chief of the new Centre for Environmental Mechanics, where he stayed until becoming the first recipient of the new CSIRO Fellowship in 1991. He was also made the first Director of the CSIRO Institute of Physical Sciences in 1980. He is the first non-American to receive the highly-regarded Horton Medal of the American Geophysical Union.

But he doesn't absolutely refuse to accept honours others have had before him: he is a Fellow of both the Australian Academy of Science and the Royal Society of London.

The controversy occasionally surrounding John Philip stems from a combination of his scientific scepticism, his habit of plain speaking, and his unwillingness to suffer fools. He is famous within CSIRO for his trenchant comments on the administration of science and his colourful descriptions of colleagues.

He says his will be a 'Clayton's' retirement: he will continue to work long hours; to cook Italian food; to write poetry (he has been published in several collections of Australian verse); to pursue his interest in architecture (he once served as a judge of the Sulman prize, and he brought into being the Environmental Mechanics Building, architecturally the most successful laboratory in Australia) and to continue his war on mediocrity. He has threatened to write an autobiography.

As a late footnote, Dr Philip has recently been elected a Corresponding Member of the All-Union (now Russian) Academy of Agricultural Sciences. The other CSIRO scientists made Members at the same time were Dr Oliver Mayo, Chief of the Division of Animal Production, Dr Max Whitten, Chief of the Division of Entomology, and Dr John Possingham, Chief of the Division of Horticulture.

♦♦♦



## Child-care update

Suddenly, all three of CSIRO's long-promised child-care centres are open for business.

Of course it wasn't *really* sudden. It's taken a lot of hard slog on the part of a lot of dedicated staff. But still, to an outsider's eye, they all came springing up together like the flowers in Spring, and just as welcome.

In August last year the centre at CSIRO's Black Mountain site opened its doors, followed in January this year by the North Ryde centre, and then in February by the Clayton centre. Because the centres have opened so recently there are still places available in all three.

Hurry! If the places can't be filled by the children of CSIRO staff they will have to be opened to the general public. Nothing the matter with the general public, of course, (well... ) but it would be a shame to see CSIRO people miss out just because they were a bit slow off the mark.

Contacts are —  
CSIROCARE Black Mountain, Director, Sara Blackley, ph: 06 246 5657. CSIROCARE North Ryde, Director, Vanda Jarzabek, ph: 02 943 3527. CSIROCARE Clayton, Director, Joan Rose, ph: 03 541 3217. ♦

## New ATS Fellowships

The Australian Academy of Technological Sciences and Engineering has elected thirty-five new Fellows.

Six of these are from CSIRO, namely —

- Dr W. Hewertson, Chief of the Division of Forestry and Forest Products;
- Dr M. J. Murray, Chief of the Division of Materials Science and Technology;
- Professor P. J. Nestel,

- Chief of the Division of Human Nutrition;
- Dr B. L. Sheldon, Chief Research Scientist, Division of Animal Production;
- Dr D. E. Smiles, Chief of the Division of Soils;
- Dr B. H. Walker, Chief of the Division of Wildlife and Ecology. ♦



*Dr John Stocker was chosen as 'Australian of the Year' by the newspaper The Australian on January 25.*

**CoResearch** is produced ten times a year by the Public Affairs Unit for CSIRO staff and interested outsiders. Distribution 8,500. Readers are encouraged to contribute or offer suggestions for articles. Stories may be reproduced, provided acknowledgement is given to both **CoResearch** and CSIRO. The deadline for contributions is two weeks after the preceding issue, but earlier is better, as issues fill up fast. Editor: Liz Mackay  
PO Box 225, Dickson ACT 2602  
Phone: 06 276 6567. Fax: 06 276 6641

*In case you haven't got one yet, the new CSIRO data book is out. Not the one in British racing green, not the one in tomato red, but, at last, the one in CSIRO blue! It's a mine of compact information, as always, and great for your ambassadorial duties. For extra copies fax (don't phone) Noel Tregoning on 06 276 6238.*

# CoResearch

No. 347

May 1992

CSIRO's staff newspaper

CSIRO  
DIVISION OF MINERAL  
PRODUCTS

## Redundancies: lull after the storm?

**A long-standing disagreement between CSIRO's management and unions over the numbers and handling of redundancies within the Organisation may have been brought a step closer to resolution by a recent meeting of the CSIRO Consultative Council.**

The Consultative Council, made up of representatives of the Organisation's management and its unions, met on Friday April 10 in Adelaide and issued a unanimous formal statement to staff on the following Monday.

The document, titled 'Improving redeployment in CSIRO' is signed by Dr John Stocker, Chief Executive of the Organisation, and Mr Ross Rebgetz, President of its Technical Association. Dr Stocker signed in his capacity as Chairman of the Consultative Council and Mr Rebgetz as the present Deputy Chairman (a 'rotating' position).

The statement announces the setting up of a Workforce Planning Task Force to improve CSIRO's redeployment procedures.

The task is seen by the Council as urgent, as there will be more positions made redundant over the next few years.

The Council says it expects a 'decline in the financial resource base' during what's left of the current triennium (i.e. till July 1994). There will also be new redundancies as a result of changes in research priorities — both the Organisation's own and those of external funding bodies.

The new task force will tackle the problem of redundancies by strengthening CSIRO's systems for the management of redeployment.

In the inevitable cases where redeployment still fails, the task force will make sure that the departing employee has a chance to acquire some 'job search' skills.

Part of the reason the Consultative Council was able to make its decisions so quickly when it met on April 10 was that the CSIRO Executive Committee had already met earlier in the month and spent much of that meeting working on the same problem.

They had decided at that meeting that steps must be taken at once to improve the

situation. Some of the tasks they identified as urgent were

- getting CSIRO's Institutes directly involved in the redeployment process;
- maximising staff use of retraining opportunities;
- getting Divisional management more involved in retraining and redeploying across Divisional boundaries, with increased help from the Human Resources Branch;
- improving communication between senior management and unions on staffing decisions; and
- improving communication with staff about the budget, and

about the consequences for them of research priority decisions.

...

These relatively dramatic and visible decisions are only the latest developments in a long dispute that flared up suddenly on March 25 with the release to the press of two conflicting statements — one from the CSIRO Officers Association and one from CSIRO's Department of Corporate Services.

The Officers Association statement claimed that CSIRO was 'approaching the precipice of a staffing crisis'.

The President of the Association, Mr Mick Fleming, was quoted in the statement as saying, 'A total of 103 staff have been made redundant in the last fortnight on top of 65 staff in late 1991'.

Mr Fleming said that 'CSIRO policies and management practices' compounded the problems generated by inconsistent funding of the Organisation by government.

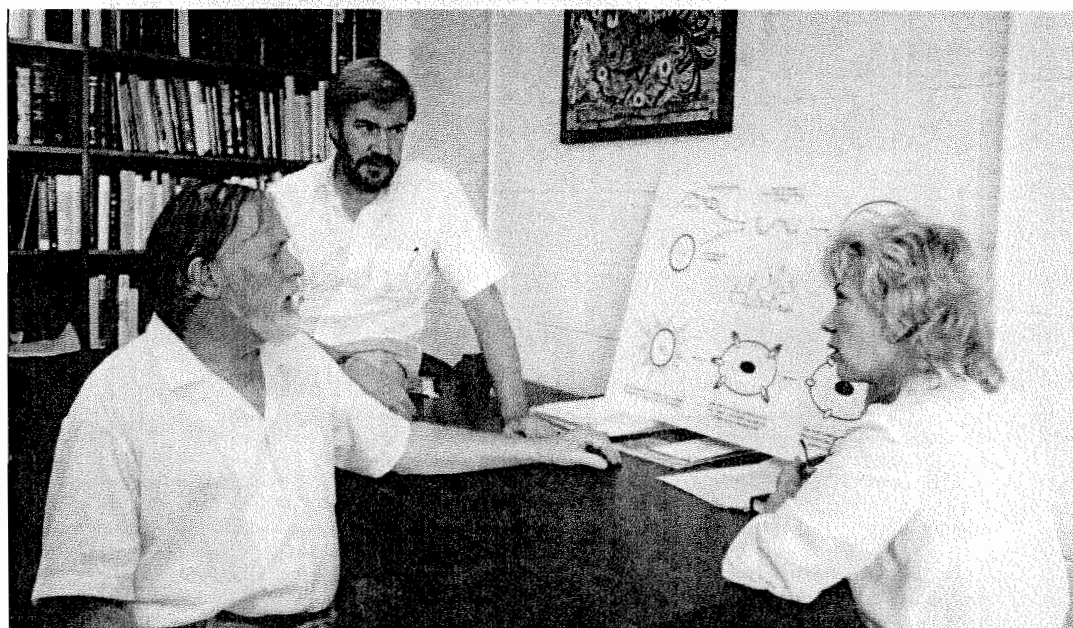
The answering statement quoted Mr Arthur Blewitt, Director of CSIRO's Corporate Services, as saying, 'Not one of the 103 people identified by the Officers Association has yet been retrenched — we are planning ahead in the face of falling funds from external sources for our research and to take account of CSIRO's

changing research priorities.' If needed the reductions would happen through natural attrition, people coming to the end of their terms, redeployment and, as a last resort, retrenchment.

He said the claim of 103 redundancies was judging in advance the outcome of a process that would be carried out over the next three years. ♦

*Articles on the conflict between management and the Officers Association appear as 'Matter of Opinion' columns on pages 6 and 7. Alan Brown, ex-Chief of the Division of Forestry, speaks from the perspective of a science manager trying to look after his Division and Mick Fleming from that of a unionist trying to look after his members.*

## So, great minds really *do* think alike, whether in art or science ...



Above, well-known Australian author, Blanche d'Alpuget, hears about the concept of viral-vectored immuno-contraception — an idea for drastically cutting back rabbit and fox populations by using viruses and their own immune systems to make them infertile. Doing the explaining are Dr Mark Bradley and Dr Hugh Tyndale-Biscoe, both of the Division of Wildlife and Ecology in Canberra. Blanche d'Alpuget's forthcoming novel uses a similar concept, arrived at quite independently. A Cooperative Research Centre to develop this concept was awarded at the second round in December last year. It will be called the Cooperative Research Centre on Biological Control of Vertebrate Pest Populations and the research partners will be the Division of Wildlife and Ecology, the Australian National University, the Western Australian Department of Conservation and Land Management and the Western Australian Agriculture Protection Board. Photo by Roger Fryer.

# Consultative Council on redeployment in CSIRO



The above picture shows John Stocker at the May 10 meeting of CSIRO's Consultative Council, at which the new redeployment task force was created. (The picture was produced by Malcolm Paterson, of CSIRO's Film and Video Unit, by photographing a videotape movie of the meeting.)

A year ago, in *CoResearch* No. 340, May 1991, I drew attention to the role of the CSIRO Consultative Council in industrial participation. With its three new sub-committees — Human Resources Policy, Training and Development, and Organisational Policy and Communication — the Council is now structured to play an important role in decision-making in the Organisation.

The Council met on April 10, at the Division of Human Nutrition in Adelaide. They considered CSIRO's projected budgetary situation and its consequence for staff. In particular, a paper on improving redeployment, prepared by the Human Resources Branch at the request of the Executive Committee, was discussed and referred to the Human Resources sub-committee.

A special redeployment task force has been set up to immediately develop and introduce improved processes for the redeployment of staff. The new processes will be based on improved work-force planning driven by Divisional research planning. An extraordinary meeting of the Consultative Council on June 2 will further consider the findings of the task force in preparation for discussions with the CSIRO Board at its June 16 meeting.

I think it of the first importance that staff understand the combination of circumstances that is making on-going change

necessary.

- External funding bodies, particularly in the rural industries, foreshadow a significant decrease in research funds over the next three years.

- We still suffer regular erosion of our appropriation budget through the application of the so-called 'efficiency dividend', and the May 1989 Science Statement funds invested by the Government in priority research in CSIRO are due to cut out in 1994-95.

- Our hard-won new Award, in the very fact of reflecting more fairly the worth of CSIRO's scientists, makes each scientist cost more.
- In addition, the national research priorities process will continue to alter the distribution of funding between Divisions.

None of this means that we should sit on our hands. The Organisation must explain to government and industry the importance of maintaining the investment in core research if CSIRO is to retain its capacity to mount major

research in the national interest. Minister Free has ensured that our viewpoint is being clearly expressed on the Inter-Departmental Committee that is now preparing the way for a White Paper on Science and Technology in August this year.

Quite apart from the external influences on our budget, we have an immediate need to devise improved ways of redeploying, and, where necessary, retraining, staff. Both matters have been taken on as urgent by the Executive Committee and the Consultative Council task force.

I invite your input, and will keep you informed of developments.

John Stocker  
Chief Executive of CSIRO

## Letters to the Editor

Dear Editor,  
I am hoping that readers of *CoResearch* can help PAU in our search for the CSIRO Christmas Card for 1992.

(What? you cry — we've only just finished one Christmas! Sorry, but preparation for the next one has to begin early if we are to deliver on time.)

Every year we scour our meagre files for a photo, drawing or idea that we could use to convey a CSIRO greeting. Sitting here in Limestone Avenue we don't get to see much of the action and I'm sure we are missing out on some beautiful or intriguing concepts for a card with a scientific flavour.

If anyone out there has an idea or photo or drawing they think would be suitable, I'd be very pleased to hear from you. In May/June a selection of ideas is put in front of Dr Stocker, who selects both a corporate card and a personal one for his own use. Fame, if not fortune, will await the chosen ideas, as we print over 13,000 corporate cards, which are mailed out all over the globe. Your name would naturally be included on the credits.

I can be contacted at the PAU (at HQ), on fax 06 276 6641 or phone 06 276 6545.

Jenifer North  
Manager Corporate  
Communications  
Public Affairs Unit

*The following letter was sent to our Minister, Ross Free, but with the request that he pass it on to staff. —Ed.*

Dear Mr Free,  
The signatories of this letter are members of Speakers' Oasis Toastmasters' Club, which meets at Chatswood, NSW. A very frequent theme that emerges from speeches of club members is concern about the environment.

Given this concern, naturally we are very appreciative of work being done to address pollution and other environmental problems. Hence this letter, the purpose of which is to indicate our very strong support and appreciation of the dedicated efforts of research scientists and support staff of the CSIRO, as well as those of other scientific institutions around Australia. Their efforts are of inestimable importance in understanding the causes of problems, finding solutions, educating industry and the public and generally improving the welfare of all Australians.

We appreciate the foresight successive governments have

shown in supporting scientific research. We hope the Government will keep the importance of environmental research well in mind when it determines Budget priorities.

Would you please pass this letter on to CSIRO staff.  
Yours sincerely,

*[There followed the signatures of the members referred to, but since there were some I couldn't decipher I shall not print any except that of the first, Mr Bob Tomkins, who sent the letter. His address is 6136 Anderson Street, Chatswood, NSW, 2067. John Stocker has already sent a personal letter of thanks. —Ed.]*

Dear Editor,  
The National Museum of Australia is embarking on a project to collect material to document the life and work of women scientists. It is part of a more general drive to enhance the way our collections document the lives of women in Australia and we would like to hear from anyone who could assist us.

Our particular focus is on women still living who worked as scientists in the 1930s, '40s and '50s. We plan to record interviews, and to collect objects that relate to their life and work during that period and since. Examples of the kind of material that we might collect are photographs, scientific equipment such as microscopes, drawing kits or measuring devices, and also personal effects such as binoculars, cameras, and items of clothing worn during field work.

We are keen to hear from anyone interested in participating in this project or from anyone who can suggest interesting women scientists for us to contact. For further information you can contact Ruth Lane on (06) 242 2117 or on the Museum's toll-free number. (008) 02 6132, or write to the —

National Museum of Australia  
GPO Box 1901  
CANBERRA ACT 2601

Ruth Lane  
Acting Curator, Environment  
Section, Museum of Australia

Dear Editor,  
Recently I received a computer-generated letter addressed to CSIR/MADAMO. Isn't this taking non-sexist language a bit far?

John Kerr  
Biometrics Unit  
Brisbane

More letters on page 8



## Board Business

by CSIRO's Chairman of the Board  
Adrienne Clarke



The Board met for the first time this year on February 18. It was my first meeting as Chairman and we also had our three new Board members attending their first meeting — Professor John de Laeter, Dr Max Richards and Mr Douglas Shears.

We discussed changes that had taken place in CSIRO over the last five years, what should be our primary objectives over the next five years, and how we might best go about achieving these objectives. The Board saw this as so important that members resolved to dedicate two extra days to meet and discuss these issues without the time constraints of a one-day Board meeting.

We plan to develop an agenda further before we meet in a 'retreat'. We agreed, however, that two of our primary objectives are:

- to continue to work closely with our Chief Executive, John Stocker, and to support him in every way possible; the Board is very firmly committed to the view that one of its key functions is to ensure that the Organisation has the best possible person at the helm and the best possible executive and administrative team to support that person. I am now working much more closely with John than I did as a Board member, and we are finding a great synergy in the tasks we are undertaking either together or individually;

- to ensure that CSIRO's reputation and credibility are further enhanced, so that CSIRO continues to receive sufficient support and resources to enable it to carry out excellent science directed to Australia's future economic and social well-being. One of the tasks is to develop a clear understanding of our role in Australia's future by the community generally and by all political parties.

We looked at a range of other matters in February:

- we finalised the Strategic Plan (which we will be using, individually and collectively, to exemplify CSIRO's key role in Australia's future); in particular we requested that the Plan should include estimates of the benefits associated with some of our research activities;

- we considered and supported the Chief Executive's recommendations for redistributing resources in 1992-93 as part of the second phase of the research priorities implementation process; we stressed the need to look at the longer-term implications for research in low-priority areas that were suffering a progressive cut in funding;

- we endorsed arrangements for the review of CSIRO research for the rural industries; and

- we requested information that will help in decision-making regarding relocation of the Corporate Centre.

# Sirofloc gains new world market stall

The English company Davy John Brown Pty Ltd has announced the signing of a contract with Yorkshire Water (UK) for the construction of their second water-treatment plant to be based on the CSIRO-developed technology Sirofloc.

It will be the largest plant in the world to make use of the technology, which was developed in the 1980s by the Division of Chemicals and Polymers and won the CSIRO Medal in 1989.

The contract follows successful operation of Yorkshire Water's Redmires facility, the first commercial Sirofloc plant outside Australia, and the commissioning last December of a Sirofloc plant in Devon.

Built in 1988, Redmires cleans difficult moorland waters so effectively that the quality of the

Sirofloc-treated water is consistently above that required by the stringent BEC standards.

The Sirofloc process uses particles of magnetite to collect clay and mud in the water.

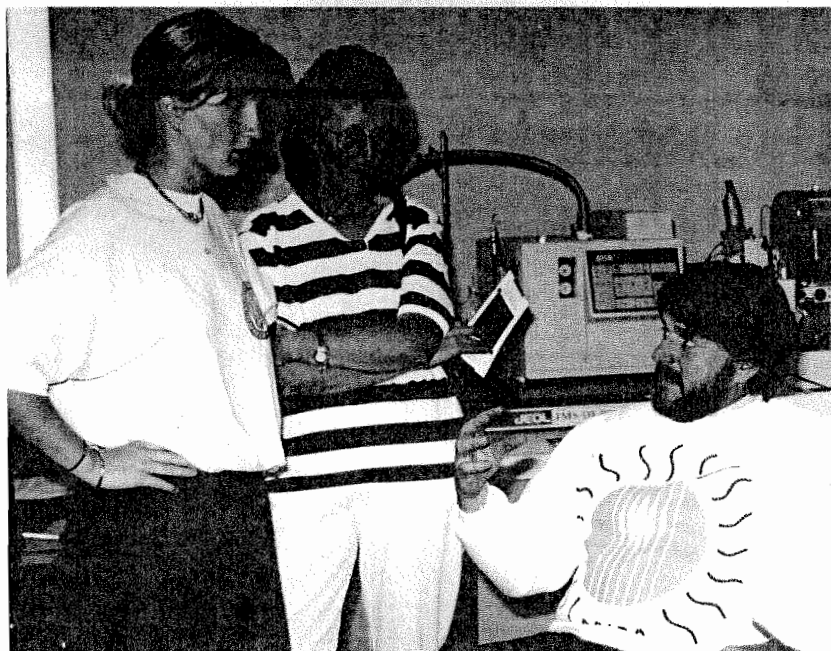
The magnetite is then passed between the poles of a magnet to give it an electric charge. It sinks to the bottom, taking the clay and mud with it and leaving clear water above. After this water has been siphoned off the magnetite can be cleaned and used again.

Davy John Brown and Yorkshire Water are also collab-

orating in trials of the use of Sirofloc for sewage treatment. This variation was first successfully developed in Sydney as a co-operative venture between Davy John Brown, CSIRO, and the Sydney Water Board.

As well as the repeat business Sirofloc has already secured with the English plants, this new use of the technology for treatment of sewage, and for industrial and mining effluent, is expected to capture further important export markets for Australia. ♦

## Chemicals and Polymers Open Day



Above, Mr Ivan Vit explains the mass spectrometer to a VCE (Victorian Certificate of Education) student and her mother during the Chemicals and Polymers Open Day at Clayton.

The Division of Chemicals and Polymers at Clayton opened its doors to the public on the afternoon of Sunday, April 5, as part of Open Door '92 for the Australian Chemical industry on that weekend.

Four politicians from the area, and the local mayor, accepted an invitation for a guided tour by the Assistant Chief, Dr Neil Galbraith, the Deputy Chief, Dr Peter Wailes, and Business Manager, Mr Peter Millikin. The Chief, Dr Tom Spurling, flew in from Japan that afternoon and was also able to join the tour.

One interested group attending was Year 12 students studying for the new Victorian Certificate of Education. Youngsters played with helium-filled CSIRO balloons while the older students asked staff for information to help them with specific assessment tasks and possible careers.

♦♦♦

# ☆ your month in the stars ☆

☆☆☆☆☆☆☆☆ by Sri Derassum Divad ☆☆☆☆☆☆☆☆☆  
(the astrally channelled personality of the first Australian rabbit to die of myxomatosis)

## Mathematicians (March 21-April 20)



People close to you will try to make you swap your two-inch thick, tinted spectacles for something more fashionable. Don't listen to them. And your hair looks just great standing straight up on end the way it is when you get up in the morning. Remember, you can make that big, cruel world out there go right away if you just close your eyes and concentrate hard.

## Geneticists (April 21-May 21)



I think you got away with it this time. There've been no reports of new epidemics and that furry stuff in the petri dish didn't have too much effect on the cat. But if I were you I'd stay away from the lab for a while. And keep a close eye on your colleagues in case they start showing any symptoms. After all, you never did figure out the incubation period.

## Infotechnologists (May 22-June 21)



It really is a drag pulling up on Monday morning after a

weekend on the tiles. You can't wipe the grin off your face from the house party on Saturday night. But your PPE's coming up this month and you still haven't figured out how to turn on the computer. If only the headache would stop. Why don't you put down something about 'prefunctional feasibility study of dormant platform environment'. That should shut them up. Then you've got until July to find the 'on' switch.

## Ecologists (June 22-July 23)



Don't feel too guilty about your lapse at the Italian restaurant last week. Even Gandhi ate red meat once. I know it hurts when you put your ankles over your shoulders like that but you know you can't be a whole person without yoga. You don't want to be one of those Gaia-raping reductionists now, do you? Keep your crystal nearby because a close relative in need of spiritual help might visit you this month. And get a bloody haircut.

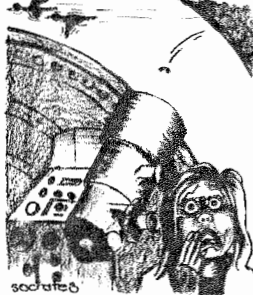
## Geologists (July 24-August 23)



Your decision to drill the test hole was absolutely right, and, like you said, it was a bloody stupid place for a burial ground anyway. Those airheads from the Land and Environment Court should try to earn a living in the real world instead of

whinging all the time and prancing about with their greenie mates. Pity about all the bone deposits in the core sample though. They really screwed up the data.

## Astronomers (August 24-September 23)



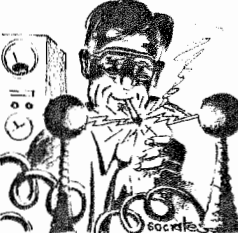
There is an air of uncertainty hanging over your planet this month. It's nearly as bad as the time you told Nature you'd found a black hole and it turned out the previous shift had dropped a fridge magnet into the data port. Or the big bang theory. You still haven't worked up the courage to write a retraction on that one. How are you going to explain that you measured the Doppler shift of Flight 243 from Sydney when the techs were so certain they were tracking Andromeda?

## Botanists (September 24-October 23)



You never believed one plus one equalled three? Try explaining that to the nice woman at Family Planning. You've got some big decisions ahead of you now, all because of two bottles of Woolworths red and an overdose of Miles Davis. Sooner or later one of you is going to pop the question. Maybe you should do it now and get first innings points. Or would you rather your friends thought you were pushed into it?

## Physicists (October 24-November 22)



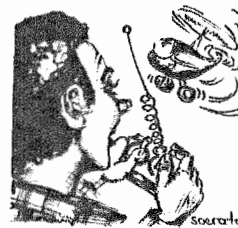
Somehow, try as you might, you never seem to be quite in tune with everyone else. Wheeeeee! (there goes another one). Woop woop. What? Is it morning tea already? That's odd. You never knew those shiny little round things could be used to get cans of Coke out of the machine. When is someone going to explain to you what is going on around here? Try this: it's just a step to the left, then a jump to the ri-i-ght...

## Chemists (November 23-December 21)



The inefficiency of some of your colleagues really has to be seen to be believed. They think nothing of being five minutes late for a lab meeting. After all, it's only eight years to the 21st century. Interesting article in the literature this week. You'd better drop the morning iron intake by 20mg and add another two minutes to the lunchtime jog. Balancing your diet and exercise is just so necessary when you're always on the go. Is that the time already?

## Engineers (December 22-January 20)



The hell with those wimps over in Admin. You know what's

right and you'll damn well do it. You don't get mad, you just get even. Like in 'Nam. Don't let those spineless desk jockeys tell you what colour Dymotape name-tag you're allowed to have on your hard hat. You'll show them. You'll have a red one and damn the consequences.

## Zoologists (January 21-February 19)



Bad luck about the London trip. But after the invertebrates conference in Bali last month and the monotrems junket in LA (what a rort!) you could hardly expect to pull off a hat-trick. Now it's probably time to start working on Rio. Maybe revive one of those old undergraduate essays you did on tube worms. Bet no-one's considered the impact of climate change on them yet. Bound to be a paper in it. Make sure it's mid-afternoon on the third day so no-one's paying attention.

## Bureaucrats (February 20-March 20)



Those bloody scientists have been stuffing around in the labs again. As if you haven't got enough to do without having to worry about all their messy experiments. They used up nearly 20 per cent of your unit's budget last year, just on experiments. Wonder what happened to your submission to EC suggesting that in the interests of efficiency the unit should drop its research component altogether? And what is that smell in the air conditioning? ♦

## Maxwell Jacobs Award won by Forestry scientist Clive Carlyle

Dr Clive Carlyle, CSIRO Division of Forestry, has received the Maxwell Jacobs Award of the Australian Institute of Foresters and the Australian Academy of Science.

The Award allows him to attend two conferences in the United Kingdom, one on tree-root systems and their importance in the nutrition of forests, and the other on the effects of management on soil organic matter and nutrient availability in forests.

While in the UK Dr Carlyle will also visit a number of research institutes conducting work on the nutrition of plantation forests.

The Maxwell Jacobs Award recognises the international significance of research conducted at the CSIRO Division of Forestry's Plantation Forest Research Centre at Mount Gambier in South Australia.

On a more local level, it also recognises the importance of the Centre's research to the Australian forest industry, which has continued to provide valuable financial support to the Centre despite the current recession. ♦

## Toxic waste disposal: Mantech's 'Plascon' gets adopted

Melbourne chemicals company Nufarm Ltd is backing a CSIRO breakthrough in the destruction of toxic waste — Plascon.

Federal Environment Minister Ros Kelly commissioned the first Plascon waste-destruction unit at Nufarm's Laverton North manufacturing plant on March 19. She said the pilot unit put Nufarm at the forefront of the international chemical industry in relation to waste management.

The Minister also said the technology, developed by CSIRO's Division of Manufacturing Technology and Siddons Ramset Ltd, had enormous export potential for Australia.

CSIRO Chief Executive Dr John Stocker said the Plascon project was an excellent example of industry collaboration, and had already gained

international recognition.

'Plascon comes from a philosophy that it is better to treat waste as it is made during the manufacturing process rather than afterwards, when it presents potential storage and transport hazards,' he said.

The new technology destroys waste in the 'plasma' created by an electric arc. The process generates temperatures of up to 15,000 degrees Celsius, breaking down toxic substances into compounds that can be safely disposed of or recycled.

The pilot plant at Nufarm will undergo a series of industrial trials supervised by Nufarm and CSIRO technicians.

♦♦♦

## Pay rise for scientists and engineers —

# Private sector award jumps 35 percent

The following item appeared in the Financial Review on March 24

The Industrial Relations Commission has awarded increases of up to 35 per cent in the minimum pay rates for engineers and scientists employed in the private sector.

A decision handed down by Commissioner Greg Harrison on

Friday [i.e. March 20] in a long-running award-restructuring case introduced a new salary scale for engineers and scientists working in general industries such as mining, food processing, oil refining and manufacturing. Under the decision, the

## CSIRO's photographic talent goes commercial



Above, representatives of CSIRO and PLA sign a new agreement to market CSIRO's photographs at an international level. Left to right, Lindsay Bevege, Manager of CSIRO's Public Affairs Unit, Tim Moore, Managing Director of the Photographic Library of Australia Pty Ltd, and Geoff Lane, Manager of the North Ryde Site Photography and Graphics Group. (See story below.) Photograph by Chris Williams, Communicator for the Division of Applied Physics.

CSIRO has signed an agreement with a commercial picture library that will open the way for the Organisation to sell its photographs on the world market.

CSIRO began sizing up the potential of such an arrangement more than two years ago after some of the Organisation's photographers complained that many pictures were being given away or otherwise used — often in the name of 'good publicity' — without any consideration for their real value.

Mr Geoff Lane, Chairman of the CSIRO Photographers' Group, did the spadework in setting up the new arrangement.

'Considerable returns,' he said, 'are often missed simply because we naively pursue 'good publicity'. Science sells. You just need to know how and to whom.'

With the encouragement and co-operation of Lindsay Bevege, Manager of the CSIRO Public Affairs Unit, a number of the larger libraries in Melbourne and Sydney were looked at to

gauge their suitability for housing a collection of potentially marketable pictures associated with science.

The Photographic Library of Australia Pty Ltd (PLA), a company based in North Sydney, was CSIRO's final choice as a partner for the venture.

The firm has strong affiliations with many overseas libraries and opens the door to a huge world-wide market. One United Kingdom affiliate specialising in science turns over approximately \$15 million a year.

'Any slice of that action can't be bad!' said Mr Lane.

The fee gained by the licensing of any photograph is divided equally between the library — which aggressively markets stock to carefully targeted clients — and CSIRO.

The incentive to contribute pictures comes from the fact

that financial returns are to be used by Divisions for the benefit of the photographers concerned. This might take the form, for example, of attendances at conferences, or the purchase of new equipment.

The photographers will not be the only ones to benefit, however. The Photographic Library is also keen to market written articles on science.

The Organisation as a whole also benefits by the setting-up of a centralised collection of CSIRO pictures. This will be particularly useful at Corporate and Institute level where ready access to Divisional photographers may have been tricky in the past.

The agreement was signed in late February by Mr Lane and the Managing Director of PLA, Mr Tim Moore.

Copies of the agreement and guidelines for contributors can be had from Geoff Lane at the Minerals Research Laboratories, North Ryde, fax no. (02) 887 8909. ♦

minimum starting salary for engineers will increase by 35 per cent to \$28,256 while the minimum salary for an engineer with four years' experience will increase by 29 per cent to \$34,777.

Over-award payments to professional employees in the private sector are common and

many engineers and scientists already receive higher salaries than the award minimum rates.

But the Association of Professional Engineers and Scientists Australia estimates that about 25 per cent of the 25,000 engineers and scientists covered by the general awards will receive the increases, which

are to be phased in over the next two years.

The decision effectively passes on to the Professional Engineers (General Industries) Award and the Professional Scientists Award a new career and salary structure already adopted in the Metal Industry Award.

♦♦♦



# New wave redundancies in CSIRO: who's making them, who's riding

## ... A Matter of Opinion

*Alan Brown, sometime Chief of the Division of Forestry and current member of the CSIRO Officers' Association, thinks the union's public handling of the recent spate of redundancies in CSIRO has been misguided and unfair. Here he offers CoResearch readers his perspective on the recent course of events.*

In the second half of 1991 several Officers Association newsletters carried news and comment on redundancies among staff of the Division of Forestry. Unfortunately, although we had endeavoured to fully apprise the Association, some of this material did not correctly reflect the position within the Division, especially in regard to the careful procedure we followed and the role and attitudes of the management of the Division.

Most members of the Management Committee and other senior staff in the Division are also members of the Association, a situation that is widespread throughout CSIRO. The Association has the challenging task of fairly and effectively representing the interests of members who may be affected by circumstances such as potential redundancy without unfairly belittling and judging the efforts of that significant fraction of its membership that undertakes the essential and difficult but not always popular task of running an efficient and solvent operation.

In the December 1991 issue of OA News the President of the

Association concluded that 'CSIRO is in severe financial difficulty'. I believe that many other Divisions are experiencing the pressures that necessitated redundancies in Forestry. Staff in other Divisions, and especially those with management roles, may therefore be interested in my reactions to the Association's accounts and interpretations of events in this Division.

**'I cannot see how such matters can be considered and decided upon in an 'open' forum.'**

Although the Division has existed under its current name for only a year, it largely consists of the former Division of Forest Research. Over a decade the Division coped with declining Appropriation funds by not replacing members of staff who left, and by making extensive use of ESIS-type departures, so that the number of Appropriation-funded staff fell by almost half. [ESIS = early separation incentive scheme.] In 1990, as a new strategic plan was being developed, resignations and retirements effectively ceased, and it was clear that the balance between income and

expenditure, as well as the ratio between salaries and operating funds, would quickly become untenable because of factors such as the 'efficiency dividend', CSIRO's Priorities call-in, increments, reclassifications, inescapable rises in overheads, and the new Award. In addition, a small core of recruitment was essential for the operational and scientific viability of the Division, and for

meeting emerging national priorities and opportunities. The positions to be filled were quite varied, and ranged from that of carpenter to chief. The plan set a financial target of maintaining existing levels of external support and paying back to IPPP overdrawn Appropriation funds by the end of the five-year planning period. [IPPP = Institute of Plant Production and Processing.]

The planning process started

**'It is self-evident that consultation must end at some point ...'**

with a two-day workshop of staff from all Divisional sites in October 1990. The workshop was programmed and managed by a 'slice' group of Yarralumla staff. It examined priorities in research issues in relation to the Divisional mission. Documents prepared for discussion at the workshop formed the basis of a subsequent report available to all staff.

A strategic plan was drafted, based on detailed deliberations of the Management Committee (comprising Program Managers and me) assisted by a consultant experienced in CSIRO planning.

An incomplete draft of the plan was made available throughout the Division in Autumn 1991 for comment. The draft was incomplete in that it did not include information on the proposed resources strategy, because it was considered inappropriate to circulate freely a draft document implying redundancies. This limitation was openly discussed with members of the Yarralumla Industrial Participation Committee, who showed considerable understanding of the sensitivity of such

information and suggested a mechanism for receiving staff comments promptly. We followed their suggestion, and key senior scientists helped to synthesise the varying comments from staff. Comments from staff and the Institute were considered by the Management Committee and a final plan prepared in May 1991.

The plan provided the framework for decisions on staff requirements; after having made as many redeployments within the Division as possible, about 20 potentially redundant members of staff were identified. The core areas in which the Division needed to recruit scientists with specialist skills were also identified. Each potential redundancy case was carefully analysed by program managers and debated within the Management Committee, and where appropriate the input of project managers was sought.

I cannot see how such matters can be considered and decided upon in an 'open' forum.

I personally advised the staff affected during the week commencing June 3. On the Monday of that week every member of the Division received a letter outlining the situation, and on the Thursday a staff meeting was held in Canberra which was also attended by the Director. A direct telephone link-up relayed proceedings to other sites. The Staff Associations were also informed of the position. Meetings were held with Association representatives in Canberra on July 1 and Melbourne on July 5 to provide further information and

**'These are unsubstantiated, unwelcome and unjust opinions which reflect unfairly on colleagues ...'**

explanations.

The OA has subsequently claimed on several occasions (July 10, November 8, November 27, December 14) that the Division has departed from essential features of the Human Resources Strategy Plan, apparently particularly in the key areas of redeployment and training. Although details of redeployment that had

occurred were given at the meeting on July 5, together with an undertaking to consider 'exchanges' between people wishing to leave and those wishing to stay, the Association persisted with the view that redeployment and retraining had been neglected. The Association has ignored the significant redeployment that was undertaken, and the exchanges that were canvassed, one of which has been satisfactorily concluded. The Division has supported a variety of training ranging from one-day courses to PhD programs within and outside Australia. It is misleading, incorrect and unrealistic, however, to maintain that retraining and redeployment offered a feasible unexplored avenue that could have obviated the proposed redundancies or would have met our crucial requirement for limited recruitment. Throughout this period we have actively explored every avenue open to us to raise funds from external sources. Some of these efforts have borne fruit and indeed have helped to lessen the impact of redundancy.

A further claim has been that consultation with staff 'was limited'. How much consultation would be adequate? It is self-evident that consultation must end at some point, and on an issue such as the identification of redundant positions it cannot be as 'open' as on other topics. The substantial consultation with staff regarding future directions that did occur has not been fairly acknowledged.

The President, in the OA News of December 1991, maintained that '... Institute and Divisional Management right across CSIRO are far less concerned and caring about

staff (than the CE)' and '... care, concern and consideration are fast disappearing

from management vocabulary'. These are unsubstantiated, unwelcome and unjust opinions which reflect unfairly on colleagues in this Division and IPPP, many of whom are Association members. The claims are divisive and do nothing to advance the cause or stature of the Association. ♦



# ing them, and how many are going under? It seems that's partly ...

*Mick Fleming, a Principal Research Scientist with the Division of Water Resources and President of the CSIRO Officers Association, speaks in answer to Mr Brown's view (opposite). He is not speaking for the union, but offering his personal account of recent events, in what he titles 'one union president's perspective'. (The official views of unions and management are briefly given in the front page feature, and the source documents identified.)*

Management is always perceived as taking an impersonal view of the need to make staff redundant, but the process becomes intensely personal once individuals are identified. Unions are seen by most members as a form of insurance where a collective view and if necessary a collective action can be used to reverse decisions affecting individuals.

Union officials, voluntary or career, are frequently placed in the invidious position of having to intercede between members and management with respect to redundancies, but can often carry cases to higher levels so that when redundancies arise from mid-level management, senior management can be persuaded to reverse decisions.

A few successes can raise expectations of the union official's powers. However, when large-scale 'downsizing' occurs then financial imperatives provide little room to manoeuvre or to save more than one or two positions. It is difficult to do anything except ensure that all members are allowed maximum flexibility and that all departing officers receive all due entitlements and a sympathetic treatment.

In CSIRO we are in a double bind in that most science

managers and scientists are members of the Officers' Association, and now with union amalgamation a certainty,

the probability that all parties to any dispute will be members is greatly increased. In these situations almost any statement from a union is likely to upset some members, and we have therefore to be very careful. The 'Matter of Opinion' feature opposite is a letter from a member of the OA, Alan Brown, who was also Chief of the Division of Forestry, which shows how actions and statements by unions that reflect the views of potentially redundant officers can be seen to be quite unfair to other members.

Even in CSIRO, absolute truth, if any such thing exists, is frequently the first casualty of dispute. Once the union decides to take up an issue it becomes an advocate for an aggrieved party or parties and vigorously states the views and perceptions of these parties. In the case of

CSIRO our internal communication skills are still unfortunately quite poor, so that the perceptions of bench scientists are often quite the reverse of those of Divisional and particularly Institute and higher management. It is always difficult to know exactly where truth lies.

This is also the situation with respect to the current concern about redundancies, which actually subsumes those of Forestry, to which Alan Brown refers. From a group of only three Divisions, the total number of potential redundancies identified—together with people who had actually been retrenched or persuaded to retire early—was more than 100.

As of mid-March we were aware of major dissatisfaction amongst staff with the reasons being offered by Divisional and Institute management as to why staff had to be reduced.

By good fortune a meeting of senior officers of the Officers Association and the Technical Association with Adrienne Clarke had been set for March 19, and she, after being advised of our concerns, arranged for John Stocker and Arthur Blewitt to join her. [Adrienne Clarke is

weeks. Motions suggesting appropriate actions in CSIRO to reduce or reverse redundancies were to be sought.

Immediately following the Council meeting Peter O'Donoghue and I were alerted that groups of potentially redundant officers were talking of contacting the press, 'going public'. [Peter O'Donoghue is the General Secretary of the CSIRO Officers Association.] Indeed the *Australian*, in an article by Julian Cribb, had already alerted the general public to the magnitude of the potential staff loss.

The decision was made to

**'Even in CSIRO, absolute truth, if any such thing exists, is frequently the first casualty of dispute.'**

issue a press release which would put maximum pressure on government to do something about the principal reductions in the normal funding process, i.e. the so-called 'efficiency dividend' and capital works reductions.

It had been agreed with John Stocker and Adrienne Clarke that we would notify them of the substance of any actions by unions or their members. Unfortunately the draft press

release was issued before the explanatory letters to the Chairman, Chief Executive and Minister were ready.

I immediately advised all three of the content of the press release. This allowed a press release to be issued over the name of Arthur Blewitt. [See page 1.]

These statements generated further anger on both sides, arising from perceived untruths about numbers and status of potential redundancies and the period of 'downsizing'. Fortunately again, meetings of the Executive Committee, and subsequently Consultative Council, have now provided fora for resumed debate. Relationships at the personal level between Ross Rebgetz and me, representing the unions, and John Stocker and Arthur Blewitt are now even more open, frank and constructive than before, as indicated in the Joint Statement from Consultative Council over the signatures of John Stocker and Ross Rebgetz, which by now has reached all staff. [Ross

Rebgetz is President of the Technical Association and Deputy ('rotating') Chairman of

ensure that the best plans and the best people remain in CSIRO, and that it is seen as a

model employer of scientists and technologists.

This is a personal perspective and I hope a realistic one.

It does not represent all shades of opinion within the Officers Association and particularly the Council of the Association and all Branch Committees.

A particular feature of recent redundancies has been an apparently unfair targeting of union officials. Two Branch Chairmen, a vice-Chairman and some ten present or immediately past group representatives and other office-holders have been made redundant.

This has made active unionists very unsettled; and it is already proving difficult, for that and a number of other reasons connected with the new management by objectives, to recruit candidates for the Association offices. The good news is, however, that the Consultative Council has just endorsed a Charter of Union Membership which it is hoped will be adopted by the Board at its next meeting. The charter explicitly protects union representatives from victimisation. ♦

years coming some hundreds of staff members will have prematurely parted from CSIRO—a pool of expertise the Organisation can ill afford to lose, and one which will probably be largely lost to Australia. We hope to have a more sensitive and far-sighted work-force planning in place as a result of the recent trauma.

Many, indeed most, of the leaders who will have to implement the new approach to redeployment, retraining and above all, remotivation, will also be union members.

We must all work, union and non-union, to constructively

**'... when large-scale 'downsizing' occurs then financial imperatives provide little room ... to save more than one or two positions.'**

**'A particular feature of recent redundancies has been an apparently unfair targeting of union officials. Two Branch Chairmen, a vice-Chairman and some ten present or immediately past group representatives and other office-holders have been made redundant.'**

the Chairman of CSIRO, John Stocker its Chief Executive, and Arthur Blewitt the head of its Corporate Services Department, incorporating the Human Resources Branch.]

A lengthy and serious discussion ensued, at which it was agreed that a re-examination of the financial position of CSIRO as a whole and management procedures from the Executive Committee downward would be put in train. The unions advised that they would consider plans to make an extensive sounding of membership opinion after discussion at the Joint Union Council that weekend. [March 21 and 22.]

The Joint Council decided to hold a series of General meetings which were to be provided with adequate briefing papers from the Union Executives over the next few



# Letters to the Editor (Continued from page 2)

Dear Editor,  
Peter Pockley (*Canberra Times*, 13 and 19 January) referred to the uncertainty, the low morale and the endless paperwork that have gripped New Zealand science since the 'rationalising' of the old DSIR, that country's equivalent to CSIRO.

Having emasculated the national science program, the bureaucrats now insist on full cost-recovery for the services they provide. But their strict user-pays principle only works one way. As a refugee from DSIR now working with CSIRO, I was asked to referee a proposal seeking funds from the Foundation for Research, Science and Technology, administrators of the 'public good' research funds.

The proposal was accompanied by an oily letter suggesting I should do this task — about four days' work — for no charge, as part of my responsibility to science at large! So on the one hand New Zealand science is enforcing a strict cost-recovery program, while at the same time transferring the costs of evaluating research programs to other organisations.

I evaluated the proposal, and sent it off with a bill for the CSIRO time it consumed. Not much prospect of collecting, but what's good for the goose is good for the gander! It is pleasing to read that the Coalition have said they will not implement the same sort of science policies as their trans-Tasman colleagues. However, Australian science and the Australian community should heed the message: economic rationalism is a double-edged sword.

**Freeman J. Cook**  
Senior Research Scientist  
Centre for Environmental  
Mechanics

Dear Editor,  
Your March issue carried a brief report on the award of the Australian Entomological Society's Ian Mackerras Medal to Dr Ebbe Nielsen, of the Division of Entomology. By some sort of inversion, however, Ebbe's achievement has been undervalued in your paragraph by a factor of four: the Society awards the Medal (its highest honour for entomological research) once every two years, not twice a year.

**Dinah Hales**  
Macquarie University  
Immediate Past President  
Australian Entomological  
Society

*I apologise for this four-fold error. My source was a press release that told me the Ian Mackerras Medal was 'awarded bi-annually by the Australian*

*Entomological Society'. Since 'bi-annually' means twice a year, I so translated it, in the pursuit of plain English. I should have checked with the Society. —Ed.*

Dear Caption Competition Compiler,  
I have noticed that the photograph of the child with spade appeared with an apt caption in *CoResearch* No. 346, viz — 'Medal for Rex Oram'. Dr Rex Oram, Program Leader for pasture research at the CSIRO Division of Plant Industry, has received the Australian Medal of Agricultural Science ...

**Steve Davies**  
National Measurement  
Laboratory  
Division of Mathematics and  
Statistics

I have just seen the latest edition of *CoResearch*, in which the appointment of Professor Adrienne Clarke is headlined. I am appalled that the house journal of an organisation such as CSIRO, which at least pays lip-service to EEO principles, should take such a patronising, sexist attitude to her appointment. The article itself is good, but the headlines ...!

Why could you not have written about our new Chairman without making all those references to her gender? I assume she was not elected because she was female so 'Oh boy, it's a girl!' is pretty inadequate as a response, don't you think? The sub-head 'Rivers and rivals: did we hurt you, Darling?' seems suspiciously unnecessary to me also, and the sub-head about 'blood' I put down to a Freudian sub-consciousness, rather than some deliberate attempt to bring to the fore the usual reason why women are discriminated against in positions of leadership ('they will become emotional once a month while menstruating').

This sexism, I notice, continues right into the article on the personal assistants workshop (p. 7), which duly notes that they are all female. There are probably a good many reasons for this, but the principal one is tradition of the kind which you are doing your utmost to uphold by continuing gender-related journalism, one of the prime ways in which outmoded sexist attitudes are still validated in the eyes of those among our workers who remain in the dark ages of male supremacy.

This is my personal view only, and it is very strongly held!

**Di Miller**  
EEO Contact Officer  
Division of Radiophysics

To the Editor,  
The December 1991 issue of *CoResearch* should set the cause of equal rights within CSIRO back forty years. The cover headline alone ('Oh boy, it's a girl!') is the most appalling thing I have seen in print. Is it necessary, for the sake of a weak joke, to refer to this highly qualified professional woman as a 'girl'? Why is her appointment 'mainly a symbolic triumph'? Had a man been appointed to succeed Neville Wran, would it have taken two paragraphs to discuss gender? The only thing you missed was a mention of the husband and children, or the lack thereof.

Certainly it is admirable, and unusual, to see a woman moving into this prominent position. I believe the readers of *CoResearch* are perceptive enough to realise this without such extreme emphasis. The implication that it is rare for a woman to succeed in science will serve only to perpetrate the myth that women are generally unable to succeed in science.

Secondly, the article on page 7 about the personal assistants' workshop states that the leadership positions are in 'men's territory'. Men, you say, aren't moving into 'women's territory' as personal assistants and this is 'understandable, really'. It is understandable only if you see these jobs as obviously inferior.

The final insult was the last paragraph on the Hawaiian Ironman Triathlon, pointing out that a quarter of the competitors were women and implying that this is surprising. This bit of trivia has nothing to do with the rest of the article, but continues the patronising tone of the issue.

Please review the latest EEO policy and join us in moving into the 21st century.

**Carol Wilson**  
Experimental Scientist  
Division of Radiophysics

*The above two letters arrived at the same time, from the same Division, and with very similar content. I print both in full, since that is CoResearch policy whenever the letters in question are potentially controversial.*

*I think the topic an interesting one, by which I mean one on which intelligent and well-intentioned people might well differ, and I invite further comment from staff. I am also more than happy to write a detailed reply, being one of the intelligent and well-intentioned people who differ; but I am unsure whether such a use of valuable CoResearch space would be justified by reader interest. Does anyone want to comment? —Ed.*

♦♦♦

*When we hear the word 'auditor' most of us probably reach for our cringes and bristles, but are we right? Michael Parkinson of the Corporate Audit Group thinks not, and offers CoResearch readers this glimpse of something like ...*

## a day in the life of a Corporate Auditor

Is it really possible for an auditor to help?

One might readily ask whether it is possible for the auditor to even begin to understand the problems that you are facing. Perhaps you imagine a conversation with the auditor to run something like this:

...

Looking very calm, very dignified, with his legs in the air, came Eeyore from beneath the bridge.

'It's Eeyore!' cried Roo, terribly excited.

'Is that so?' said Eeyore, getting caught up by a little eddy, and turning slowly round three times. 'I wondered.'

'I didn't know you were playing,' said Roo. 'I'm not,' said Eeyore.

'Eeyore, what are you doing there?' said Rabbit.

'I'll give you three guesses, Rabbit. Digging holes in the ground? Wrong. Leaping from branch to branch of a young oak-tree? Wrong. Waiting for somebody to help me out of the river? Right. Give Rabbit time, and he'll always get the answer.'

...

After discussions of the obvious we settle down to talk about the number of legs on a noise or how loud orange is ...

The Corporate Audit Group has been charged with an essential task: to assist managers at all levels in the Organisation in the effective discharge of their duties by furnishing them with appraisals, analyses, information, assurances, opinions and recommendations. In this process we cover legislative compliance, reporting accuracy, procedural efficiency and the existence of management controls. This implies that the audit scope includes the review of management practices, activities, systems, controls or information that assist in promoting economical and efficient management and proper accountability.

There are two approaches we could take to this. We could look at the rules, regulations and standards and measure what has not been achieved. Under such a regime if you do twenty tasks and fail in one of them, your score would be -1. With this method of scoring, you are best off doing nothing: a great motivator.

Alternatively, we can look at the goals you are striving towards and see how far you have come. Under this regime, if you do twenty tasks and fail in one of them, the score is a much more balanced 19:1. Here your environment is recognised, the difficulties you are facing are taken into account and assessment is made in terms of how far you have come.

More importantly, we approach the audit task as members of the Organisation who are working for the best outcome for the Organisation. In our travels we see the best and the worst of everything and we try to spread the good ideas. We see our task as much more in terms of communication and education than the more traditional view of assessment and admonition.

When your auditor calls, she or he has come to listen. The first task we face is to understand the clients and the client area. After a little while she or he will ask some questions. It is not a test; we do not necessarily have any answers. We hope that our questions will stimulate further discussion and bring out new ideas, for to a large degree this is what the audit process is about.

We will take your ideas from you, combine them with the ideas of others and explore the possibility of trying them out in your work area. When we leave, there will be an agreed course of action to address a set of problems (opportunities) that we have all recognised as existing.

The auditor has come to help.



## Review of counselling service

CSIRO's ten-year-old counselling service is currently undergoing a review, which is due to wind up at the end of this month.

The purpose of the review is

- to obtain direct feedback from a sample of current and past users of the service about the usefulness of the counselling they have received;

- to gather opinions from staff in general about how the service is viewed and whether it is providing the right sort of services;
- to determine whether changes to the service are necessary in terms of its staffing, hours, location, frequency of visits to remote sites and type of services provided.

In its early years the service was called the Personal

Counselling Service, since that was its main focus. It still has that function, but has become more job-oriented, and is now called the Organisational Counselling Service.

The role of the counsellors is to help with —

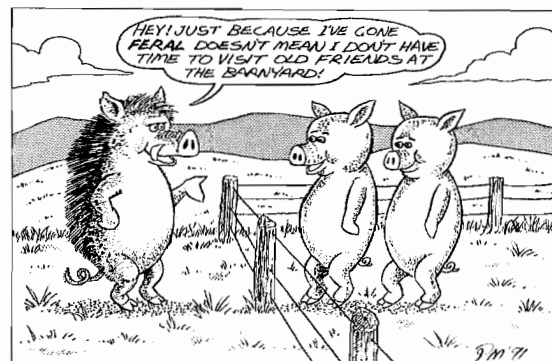
- personal problems;
- staff problems (with colleagues, supervisors or subordinates);
- team functioning;
- organisational concerns and changes;
- training, staff and management development.

The service is based on the belief that counselling can help people to understand — and

take action to improve and enhance — their own lives.

On a practical level, that means the counsellors believe that it is of real use to talk to someone who is neutral (since not involved with the problem), skilled in helping people express worries and explore possibilities, and whose whole reason for being there is to help find solutions.

The Steering Committee for the Review is keen to gather views from as wide a cross-section of staff as possible. If you would like more information or to comment call the Project Officer, Ms Jaye Cook, in Canberra, on 06 276 6225.



The Salvation Army has sent a letter of thanks to CSIRO for allowing them to receive contributions from staff through the Payroll Deduction Scheme. There are currently 202 CSIRO contributors, bringing an annual amount of more than \$23,000.

## More work towards showing those algae in their true colours



It may not be only our rivers that are being poisoned by the overgrowth of algae; some have feared that in a different form they may also menace the oceans. But if we can find out enough about them we can turn that potential menace into a useful servant. Already micro-algae have been turned to good account as marine feedstocks.

The key is in understanding how they work, and Dr Shirley Jeffrey, above, of the CSIRO Division of Fisheries, is one of the researchers helping to cut that key.

On March 18 this year the Royal Society of New South Wales awarded the highly-regarded Clarke Medal to Dr Jeffrey for her researches into the natural sciences, specifically, micro-algae.

The citation for the Medal referred to her 'detailed and innovative studies of the photosynthetic pigments of plants, particularly planktonic microalgae, which have revolutionised measurement of plant biomass in the oceans.'

The citation also said that her work had major implications for classifying and defining evolutionary relationships among plants, and praised the practical value of her development of new and highly nutritious strains of microalgae for the mariculture industry. ♦

## PLANTGRO takes the trial and error out of agriculture

Dr Clive Hackett, of the CSIRO Division of Tropical Crops and Pastures, has developed a software system that will allow farmers and foresters to assess the likely success of various crops without the trouble and expense of trial plantings.

The system, PLANTGRO, allows farmers to enter details of their local soils and climates and have the computer match these against the characteristics of the particular crop they are interested in.

'The package recognises that people have been predicting plant

growth by mental methods for thousands of years,' Dr Hackett said. 'By coupling these methods with modern scientific methods, PLANTGRO provides a new way of predicting the growth of hundreds of plant species.'

The PLANTGRO discs can be

freely copied, and are supported by a users' handbook and newsletter. Dr Hackett says the system is user-friendly and adaptable.

The system has already been sold to England, Indonesia, Italy and Papua New Guinea. ♦

## Qantas and Australian offer bargains in holiday flights for CSIRO staff



As most staff will know, CSIRO has finalised contracts with Qantas for international air travel and with Australian Airlines for domestic travel. What you may not know is that both airlines are also offering special deals to CSIRO staff for their private travel. Contact them if you're interested. Above, CSIRO and Australian Airlines sign a contract giving the airline preferred carrier status in return for discounts and other benefits. Left to right, Denis Dean, ACT Manager of Australian Airlines, Juanita von Stieglitz, National Manager Corporate and Government Travel, Westpac Travel, and Bob Garrett, CSIRO's General Manager, Corporate Finance Branch. Photo by Peter Mars.

# Sir Ian McLennan Achievement for Industry Award

It's that time of year again, when nominations are called for the Sir Ian McLennan Achievement for Industry Award.

The Award goes to CSIRO scientists whose achievements have been of benefit to Australian industry.

Winners are given a grant of up to \$10,000 for an overseas study tour related to their achievement. They are also presented with the Sir Ian McLennan Medal at a lunch-time ceremony, which this year will take place in Melbourne.

In these cost-cutting times the Award should be quite a help to those trying to catch up with overseas developments, or to increase even further the returns on their development in this country.

Last year's winner was Mr Don Beech of the Division of Tropical Crops and Pastures for his role in helping establish an \$80-million-a-year export industry based on chickpeas.

Brochures explaining the conditions of the Award and how to apply have been sent to all sites. The closing date for nominations is 30 June 1992 and the winner is expected to be announced in October.

More details can be had from Ms Karen Robinson, CSIRO Public Affairs, PO Box 225, Dickson, ACT 2602; phone 06 276 6108 or fax 06 276 6641.✧

By the time this issue reaches you, all Chiefs will have received bundles of brochures from the Department of Industry, Technology and Commerce for distribution to scientific staff. The brochure invites comment on the new Australian Technology Group, by May 10. But call them if that's too tight.

# Caption Competition

The young CSIROCARE inmate opposite brought quite a few responses from staff, and again I won't have space to print them all.

The winning entry came from Jenny Goode of the Division of Forest Products in Clayton, Victoria. Her submission was: 'You're joking, aren't you? THIS ... a sophisticated research tool? Come on ...'

Runners-up were — 'Of course it works son ... it's Standard Government Issue' from Andy Sheppard of the Division of Entomology at Black Mountain in Canberra; and 'Listen Mate, if you reckon there's rutile in my sand pit, you can bloody well dig for it yourself' from Paul Thomas, Australian Tree Seed Centre (Forestry).

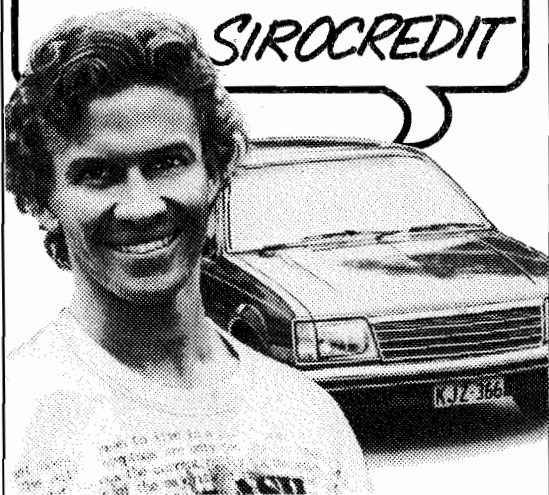
Karl Armstrong from the Division of Building, Construction and Engineering submitted four entries: 'I've buried your car keys; here, see if you can dig them up!!'; 'I always call a spade a spade. (Or a bloody shovel!)'; 'There, I have finally filled in the goldfish pond ...'; and 'We're ready to build CSIRO's fourth kinder now!'.  
I was surprised that there were none on the theme of level playing fields, and that there were two on what you might call the new nationalism — 'Come on Australia; you can do it', from Vince Harrigan at the Division of Radiophysics at Marsfield; and 'Hey, Mister, can YOU help me build a better Australia?' from Betty Siegman, Australia Telescope National Facility, Epping. (What's been on Sydney television lately, I wonder?)

Graham Lange of the Ultrasonics Laboratory (Division of Radiophysics) in Chatswood, sent 'I get a job with the CSIRO and they give me a spade to bury my head in the sand!', and Susan Reed of the Information Services Branch in East Melbourne sent 'I got my PhD researching sandcastles'.

The photograph below should reap a rich harvest, I think. Anyway, have a go ...



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Why Bank, when you can 'Credit Union'?

# Restorant at the end of the universe?

**Maybe. But let's try to restore some bits of it before we reach that point ...**

Paul Ehrlich, world-famous conservationist, author of *The Population Bomb*, and Professor of Population Biology at Stanford University in the United States, recently turned up at a small conservation workshop at Tammin, a tiny town in the central wheat belt of Western Australia.

Well, he didn't just turn up, actually. He was very much part of the team that organised the whole thing, and it was very much part of the master-plan to have it in that remote spot. The workshopers were scientists of considerable renown, and came from all over the world for their week in Tammin.

Last year two scientists from the Division of Wildlife and Ecology's Western Australian Laboratory in Helena Valley — Dr Denis Saunders and Dr Richard Hobbs — got together with Professor Ehrlich and the Tammin Land Conservation District Committee to organise a workshop. It took place during the week October 7 to 11. 'Basically,' Dr Saunders said, 'the idea was to look at restoring fragmented ecosystems from a global and a regional perspective.'

'We gathered together 34 scientists from around the world. They came from the UK, Norway, Finland, Sweden, Canada, the USA, and various parts of Australia, including two farmers from the central wheat belt, and Fred Chaney, spokesperson for the environment in the Federal Opposition, who spent the first two days with us.'

Dr Saunders said 'the really delightful part' was that they held the workshop in a small town. The Shire of Tammin has about 500 people and the town itself fewer than 100, but they have developed a landcare centre with accommodation and lecture facilities. Part of the ecological workshop was a field-day organised by the local community, during which the scientists met and talked to the local farmers.

'So we took people two hours out of Perth, to Tammin, and we kept them there for five days,' said Saunders, 'It was a fully residential workshop.'

'It was a stroke of genius to have a local community involved, because it really brought us down to reality, that what we are actually talking about in ecology is real issues that have to be acted on if we're going to change the way our landscapes are being managed.'

'And I think the farmers did get practical help from the workshop. We held a field day in the middle of the workshop week, and at one stage there were 130 people there. When you consider that there were only 35 participants at the

workshop itself you can see it was a pretty successful field day. There was a lot of interaction between the farmers and the visiting ecologists.'

Dr Saunders was also excited about the success of the workshop proper. He said he thought the meeting would have a great deal of influence because they (the organisers) had asked the contributors not only to attend and talk about their work, but also to work with other scientists interested in the same field of study to present it as part of a joint paper. In many cases the scientists presenting joint papers had never met before.

Some of the questions posed during the first two days were:

- Can we develop healthy, natural, self-regulating ecosystems?

- What is the scale of human enterprise, and human population, going to do any of our restoration attempts?

- What about invasions of exotic species into areas we're trying to restore?

- How do we work together on a global basis to try to tackle things like ecosystem restoration?

One of the questions Saunders found particularly interesting was what information primary

producers need from ecologists.

'Because, of course,' he said, 'they want to restore some of their degraded lands and recover lost agricultural fertility. How can they work that in with nature conservation, and how can ecologists help them?'

'We had an absolutely superb plea from the heart from a local farmer, Don Couper, about what sorts of answers farmers really want from ecologists.'

Saunders said Couper was a remarkable man, passionately committed to the need to make good some of the damage to Australia's ecology, but desperate for information on how to go about helping that happen without putting himself out of business.

He wanted to know, for example, the cheapest way of re-establishing vegetation, and whether large areas could be efficiently revegetated by direct seeding in dryland agricultural areas.

Should he and others like him be concentrating their rehabilitation efforts into periods of higher rainfall, taking advantage of the more favourable conditions?

Given that the new trees being planted may be 150 years away from providing hollows for birds, should they be providing

artificial nest sites in the meantime?

Of course there just aren't answers on hand to most of these questions, at least not easy or certain ones.

But there often are simple practical solutions to big problems, it seems. Saunders said he learned from a Norwegian scientist at the workshop that in Norway you must live on the land you want to farm. That means no big agribusiness, no large holdings with absent owners, and a totally different approach to land care. A social solution, and one that works well, apparently.

There was also a talk from a British scientist on how to put ideas on landscape change into practice. 'The only way you can really do this,' said Saunders, 'is by talking with the community.'

'The last talk was also on communication. How do ecologists get their message out? How do we deal with the press, and with our peers, and how can we influence some of the debates on land management?'

'We finished on the Friday, and then on the Saturday night Professor Ehrlich, Professor Harry Recher, who's at the University of New England at

Armidale, and I, spoke at a public forum at Murdoch University. About 500 people came to it, and we discussed the workshop issues, the issues associated with reconstructing an ecologically damaged world.'

'So we had a scientific meeting, we involved ourselves in the local community, and then we took part of the meeting back to Perth and reported to the wider community.'

That's not quite the end of the story, however. There will soon be a book based on the papers and discussion at the workshop. It will be the third in the series 'Nature Conservation', of which Denis Saunders is the consultant editor.

Richard Hobbs, Paul Ehrlich and he are working on that now, and it should emerge 'some time next year'.

The latest in that series — 'Nature Conservation 2: The Role of Corridors' — has just brought Saunders and Hobbs the 1992 Wildlife Publication Award for editorship. This award comes from The Wildlife Society of America and it was presented in North Carolina in March. The book was launched in Canberra by Dr John Stocker in July last year.

♦♦♦



Above, left to right, Jos Chatfield of the Tammin Land Conservation District Committee, Dr Yrjö Haila from Finland, and Professor Paul Ehrlich from the United States, during the field day held in the middle of the workshop week. The photograph was taken by Dr Denis Saunders of the Division of Wildlife and Ecology. (See story).



## Our link with Bangladesh



*Bangladesh is not a country with which CSIRO has a lot of official contact. But just at the moment CSIRO does have a formal, and human, link with Bangladesh, in the shape of Mohammad Haroon-or-Rashid, pictured above. Rashid holds a Masters degree in Economics, with Honours, from Dhaka University, and works with the Department of Forests, Ministry of Environment and Forests, in the People's Republic of Bangladesh.*

*Through the United Nations FAO (Food and Agriculture Organisation) Fellowship scheme, Rashid is getting some on-the-job training in mass communication skills at various of CSIRO's Canberra operations, including the International Relations Centre (CIRC), the Public Affairs Unit, and the scientific Divisions of Forestry, Soils, Plant Industry and Entomology.*

*As part of his training, Rashid attended the 1992 National Agricultural Resources Outlook Conference and gave an informal seminar on 'Flood Control and Irrigation for Sustainable Agriculture in Bangladesh'. He is also doing an informal course in public relations, communications and writing, at the University of Canberra. His Department chose him as the best candidate for such training, which is aimed at fitting him as fully as possible to help Bangladesh with its massive program of afforestation. This is work of desperate importance. Rashid explains why —*

Bangladesh, with a total population of about 116 million people huddled together on a territory of less than 150,000 square kilometres, is one of the poorest and most densely populated countries in the world.

About 85 per cent of the people live in the rural areas. They occupy 15 million households in 68,000 villages covering an area only twice the size of Tasmania.

That doesn't leave a lot of room for extensive forests, and in fact, only about 8 per cent of the country has actual tree cover. (The officially designated Forest Areas cover 17 per cent of the country, but sections within these are bare of trees.)

It is often said that the percentage of tree cover needed for maintenance of environmental and ecological balance is 25 per cent, though of course this depends on a lot of factors. In the case of my country, Bangladesh, if we can manage 17 per cent tree cover by the year 2000 we will be satisfied.

Most of the village people in Bangladesh are poorly educated. Very few have any consciousness of the importance of

preserving the environment.

They know they need fuel, so they cut down the nearest trees and burn them, and this includes trees in public places. Anything that will burn.

In spite of this about 80 per cent of the nation's total timber and fuel wood is still being provided by the rural areas.

My job, when I return, will be mainly to try to educate and motivate the rural people of Bangladesh so that they are less wonton in their destruction of the trees and even start taking an interest in planting new ones. The Department of Forests, for whom I work, already has a tree-planting program that offers people paid employment and a share of the profits from the sale of the wood.

But the big problem is communication. Newspapers are of little use since most of the people are in remote areas where newspapers do not reach. But aeroplane drops of pamphlets and/or posters is a real option. When such drops are made they arouse a lot of community excitement and pleasure, with villagers rushing to pick the papers up and find out what they are about.

Even in the remotest areas most people have radios and enjoy listening to them, and television sets, though rare, are even more popular. Almost any show on television is guaranteed an attentive audience.

Conventional reel film also offers a useful medium of communication with the rural population.

My Department has chosen to send me to Australia to acquire some knowledge of a range of communication techniques that might help us communicate our message through these various media.

In Bangladesh I was a Research Officer involved with the planning and preparation of development schemes. I will still have those responsibilities when I return, but I hope, with my new skills, to add some communication work, becoming a Research and Public Relations Officer.

This will be a step up for me, in skills and understanding if not in status. I hope it will also be a step towards improving the lives, physical surroundings, and prosperity of the citizens of Bangladesh. ♦

## Millionaire for a month or two

CSIRO scientist Julius Beretka has been invited to be a Visiting Professor for two months, all expenses paid, at the Basilicata University, Potenza, Italy.

Mr Beretka, a Principal Research Scientist with the Division of Building, Construction and Engineering at Highett, Victoria, will be taking up the appointment on May 3 this year.

While there he will carry out collaborative research with Professor G.L. Valenti, University of Potenza, and Professor L. Santoro, University of Naples, on low-energy cement. Also known as 'novel cement', these materials are based on industrial wastes and by-products, particularly phosphogypsum, fly ash, blast-furnace slag, bauxite wastes and lime.

Mr Beretka will present some 20 hours of lectures to third-year students in Civil and Environmental Engineering on the 'Utilisation of industrial wastes and by-products in civil engineering and building materials industries'.

He will also be delivering a Project Ambassador lecture to the staff at the Universities of both Potenza and Naples.

Mr Beretka will be a multi-millionaire for a couple of months, with his expenses payment of 12 million lire, but he's not getting too excited: he has already once experienced the rush of being an Italian multi-millionaire Professor, through a similar offer from the University of Naples in 1986.

## Tropical Animal Production turns ten



*The Division of Tropical Animal Production celebrated its 10th Birthday on March 1. Rockhampton staff, past and present, journeyed to 'Belmont' field station for seminars and a barbecue lunch. Above, staff tour the station. At the wheel is Assistant Chief Dr John Vercoe. The Division's Chief, Dr David Mahoney, also sporting a white hat, can be glimpsed top centre on the bales of hay.*

*CoResearch is produced ten times a year by the Public Affairs Unit for CSIRO staff and interested outsiders. Distribution 8,500. Readers are encouraged to contribute or offer suggestions for articles. Stories may be reproduced, provided acknowledgement is given to both CoResearch and CSIRO. The deadline for contributions is two weeks after the preceding issue, but earlier is better, as issues fill up fast. Editor: Liz MacKay*

*PO Box 225, Dickson ACT 2602  
Phone: 06 276 6567. Fax: 06 276 6641*

# CoResearch

No. 348

July 1992

CSIRO's staff newspaper



## \$50 million magnesium venture for CSIRO

On Friday June 5 CSIRO's Chief Executive Dr John Stocker signed an agreement that will provide \$50 million for research to develop Australia's magnesium metal industry.

The venture, funded half by the Commonwealth and Queensland Governments, and half by MIM Holdings Ltd and Ube Industries Ltd, of Japan, will be based on the Kunwarara deposit controlled by Queensland Metals Corporation.

Dr Stocker said that the project broke new ground for CSIRO, in that the initial stages of developing the concept for the project involved the Organisation's taking on the role of advocate for the project with government and industry as well as the traditional role of expert in research and development.

He said CSIRO had got 'an enthusiastic reception from the public sector'.

Dr Stocker said that there were several heroes in the Organisation whose names ought to be mentioned.

'Dr Alan Reid,' he said, 'Dr Malcolm Frost, and also Mr Julian Lamb from Sirotech played central roles in getting this thing going and championing it to the point where we can today look to the signing of the agreement.'

The Minister for Industry, Technology and Commerce, Senator John Button, said magnesium metal had the

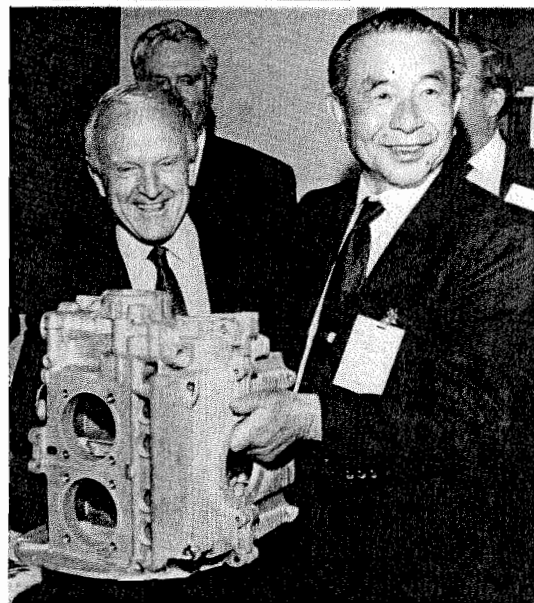
potential to create a major new industry in Australia.

'Magnesium is light, strong and can be recycled,' he said. 'The automotive industry will be a major customer.'

'Over the next four years the industry partners and CSIRO will conduct a detailed research and development program, including a magnesium metal demonstration plant at Gladstone,' he said.

'The existence of a high-quality resource with established transport links to the industrial centre of Gladstone, strategic business sense, technical expertise and international market access is a powerful combination which should ensure the success of this industrial opportunity.'

♦♦♦



Above, Senator John Button, Minister for Industry, Technology and Commerce, and Mr Nakahigashi, President of Ube Industries, Japan, test the weight of an engine block built from magnesium, the lightest of all structural metals, at the signing ceremony for a Japanese-Australian joint project funding CSIRO research into the metal. Photo by John Houldsworth.

## Worms by return ... and return ... and return ...



by David Mussared, CSIRO Public Affairs Unit

'Oh no, it's started!'

The editor of CSIRO's children's magazine *The Helix* looked genuinely worried as he walked into the tea-room clutching a small parcel post-marked Wollongong.

Inside was something most people come across only in metaphors — a can of live worms.

What was worrying David Salt was that this parcel might be just the first of many. A few

days before the Double Helix Science Club had launched a unique program — a national experiment using 2,000 of its school-age members to map Australia's earthworm population.

The launch of Earthworms Downunder was a resounding success. The co-ordinator of the program, Linda Meisel, had a busy few days doing radio interviews and answering media queries.

The Double Helix Science Club's membership secretary Lynn Pulford took about 200

calls from people around Australia. CSIRO, they had heard, wanted to know all about the annelids in their

compost heaps.

Then the worms started to arrive.

'Hi! Here are some BIG worms for you to analyse ... they were found in a normal garden, moistened by a dripping tap.'

All very encouraging, of course, but not very scientific.

Earthworms Downunder is enlisting 2,000 volunteers from the Double Helix Science Club, who will be issued with kits to survey worms in their neighbourhoods. Each kid gets specimen jars, full instructions, a magnifying glass and a worm-identification chart. They will be asked to dig up four patches of soil each and to count and identify the worms they find there.

It's all aimed to help the research of Dr Geoff Baker, who works with CSIRO's Division of Soils in Adelaide.

The data collected by the amateur experimenters will be collated and analysed and ready for his use by early next year.

In Adelaide Division of Soils communicator Cathy Sage is working with Dr Baker on a second, complementary earthworm project — a school activities package called Worm Watch, which will be made available to schools around Australia this year.

Dr Baker is delighted with the help he is getting from the Double Helix Club.

'Until we know which soils and climates different types of earthworms prefer, it is impossible to advise landowners which ones will improve their soil,' he said.

'It would have taken me five years driving around in a camper-van to get the sort of results these students will obtain.'

### You too could have 15,000 willing helpers

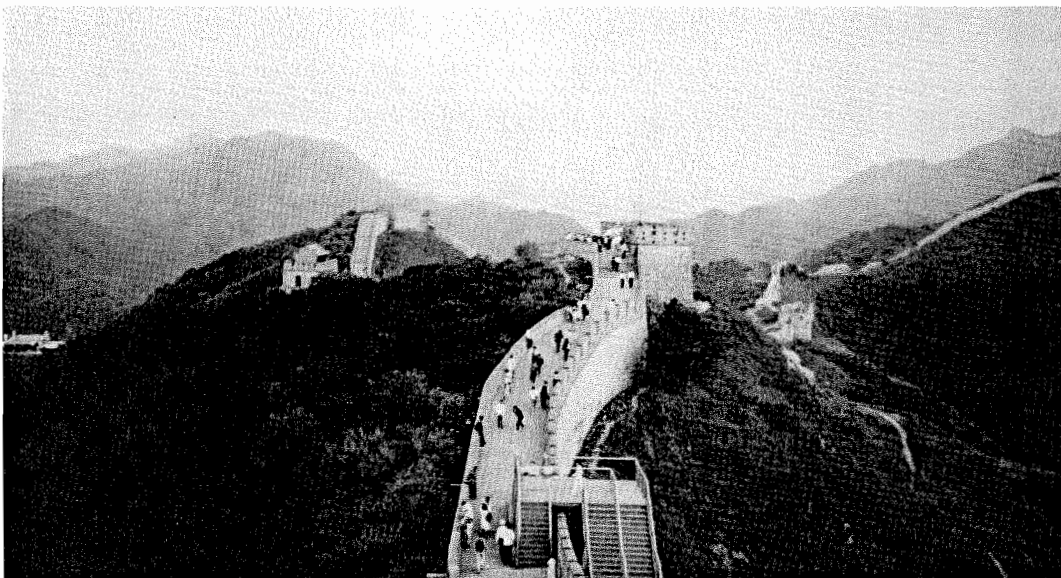
The success of Earthworms Downunder, the Double Helix Science Club's fifth and largest national experiment, could pave the way for others, using the club's 15,000 members to collect data for CSIRO scientists.

It's a way of educating our next generation of researchers about science, and with proper planning such experiments can contribute valuable information for research projects.

A national experiment run through Double Helix must be able to capture the imagination of school-age children, and it must have something concrete to add to our scientific understanding of the world.

If you have an idea you think could translate into a Double Helix Science Club experiment, please contact Linda Meisel on 06-276-6485. (The photo above left shows club members Katherine Barker, 15, and Felix White, 16, studying earthworms on a glass table.)

# CHINA, CSIRO ... and CHANCES!



Having heard from all sorts of quarters, both inside and outside the Organisation, of the many projects CSIRO is involved in all over China, I decided it was time to go and have a look for myself. There were questions to which I wanted first-hand answers. Was there some sort of overall shape to the whole thing, or was it just a jumble of haphazard and unconnected projects that happened to attract aid funding? In particular, *what* were we doing, *where* were we doing it, *why* were we doing it, and what was in it, really, for Australia and for China?

I took with me Dr Ta-Yan Leong, Deputy Officer-in-Charge of CSIRO's International Relations Centre (CIRC). Perhaps, on reflection, I should say he took me. It was partly Ta-Yan's extraordinary mastery of every known language that decided me to take him along, but his daily unfolding portfolio of a huge range of other skills left me gratefully carrying his suitcase (with its circa 85kg of presentation volumes).

My first impression of China was that we in Australia have no idea of the rate at which that country is developing. The mental images that linger — people in Mao suits living in second-rate housing and working with second-rate equipment and facilities — are out of date. The Chinese have been, and are, zooming into the future at an extraordinary speed.

We began our trip with a walk down the main street of Guangzhou — Canton, as it used to be called — and it was like a walk down the main street of Singapore or Hong Kong a couple of decades ago.

All around you you see the signs of a consumer society emerging with breath-taking vigour and speed — tremendous investment in infrastructure projects, for example, aimed at getting communications and

transport right, and an emphasis on private enterprise as the key to the development of the region.

Guangzhou has a massive transport problem. Suddenly roads that were fine for horses and not too bad for bicycles are being made to serve cars, and more of them every day. The city is looking at a huge investment in a subway system at the moment, and visionary, future-looking projects like that seem to dominate current thought in China. So, against that backdrop, it was interesting to see what CSIRO is doing.

Ta-Yan had told me before we went that I would find CSIRO better known in China than in Australia. I took that with a few grains of salt, but the trip rubbed those off quite effectively. The projects I visited convinced me that the people who have been, over the last decade, ambassadors for CSIRO — and de facto ambassadors for Australia — have done an absolutely magnificent job at cementing a position of respect. This is perhaps best reflected by a remark from one of the AIDAB officials in China, who told me that CSIRO's reputation is such that the Chinese typically regard with suspicion and distrust any project *without* CSIRO involvement.

I've returned convinced that the 21st century will be the century of Asia, and that within that century China will emerge as a dominant power. Its rate of development, its huge domestic market, the innate business and commercial skills the Chinese have shown everywhere in the world and the steady influence of its long history ensure this.

The role China sees friendly countries playing in that development is extremely important. There is a deliberate strategy of forming joint ventures with countries and companies where they see mutual benefit, and the opportunities for Australia strike me as vast.

In the small rural area of Yangling, China's first microBRIAN system is being set to work on a systematic study of land degradation in the Loess Plateau, a vast, fragile area very similar physically to large parts of Australia.

The scientist teaching them how to use it is Mr Li Rui, who spent two years learning the system in the CSIRO Division of Water Resources. Mr Li is an impressive example of how the Organisation is able to contribute through involving Chinese scientists — and then continuing to collaborate back in China — on important matters of joint interest. But he is only one example. I saw many.

I was struck by the commonality of interests between us and the Chinese in several scientific areas, but perhaps the most striking was the area of land and water care. I had a very good discussion with my host, the Vice-President of the Chinese Academy of Sciences, Professor

Li Zhensheng, about the possibility of closer collaboration between our countries on the very important issues involved, such as salinity, soil acidification and erosion. We talked about organising a symposium in this subject area next year, probably to be held in Australia, and the Academy seemed keen.

An AIDAB-funded water purification project at Lanzhou has paved the way for an Australian joint venture in a commercially very attractive field. In Beijing and Harbin the chance to build on a relationship of trust in the breeding of specific pathogen-free animals, where CSIRO scientists have surmounted all obstacles, was obvious.

In short, I found China an eye-opener, and a door-opener: it's a country where Australia's presence — and CSIRO's presence — can really open doors, in the very short term, to business opportunities, and in the long term to a natural partnership between us.

Finally, the arrangements that were made by Dr Leong for a very strenuous trip, his help in all the discussions and negotiations — and his input into not a few of the strategic aspects of those discussions and negotiations — are something I really treasure. It just confirms again what I find out every day — everywhere you look in this organisation you find stars.

John Stocker  
Chief Executive of CSIRO

## Letters to the Editor

Dear Editor,

Now the tumult and shouting has died down a bit after our latest re-organisation and people are settling down comfortably with their new titles, there is one label that somehow got missed — the quaint, old-fashioned, quasi-military title of Officer-in-Charge. Having had this label hung on me for 15 years I felt a change was long overdue.

There is no problem within the Organisation — everyone understands what it means — but difficulties arise as soon as one goes outside. At the state government level, everyone with any sort of a tin-pot group gets to call himself a director, so an OIC is immediately disadvantaged when trying to interact with state government departments. It is far worse overseas, particularly in Asian countries. Here not only do directors abound, but director-generals are pretty common, so an OIC must be a pretty low-level sort of person. Status and face in these countries is of major importance and a mere OIC tends to receive offhand treatment. It would be different if he/she were General or Colonel Something-or-other, because in such places surplus brass hats often get rewarded by some kind of senior administrative post, but a scientist OIC is quite outside the pale. In America, where OICs are unknown outside military establishments, one may be regarded with suspicion. Obviously some kind of cloak-and-dagger type masquerading as a scientist. In case you haven't guessed I came to hate the bloody name and avoided its use whenever possible!

Unfortunately I cannot offer any hope to my luckless colleagues suffering under the OIC yoke. Part of the problem is that an OIC may be in charge of anything from a field station to a major laboratory, so all OICs ain't equal. 'Director' has been pre-empted by those in charge of Institutes; 'Manager' is usually reserved for administrative people and would cause confusion: 'Chief' is unthinkable. Our impoverished language seems to run out at this point. The organisational people should have the answer — they've been paid enough!

William Dall  
Post-Retirement Fellow  
(Ex-OIC)

more letters on page 6



# New Chief for Horticulture

*'an important milestone' says Chairman*



Above, new Chief of the Division of Horticulture, Professor Elizabeth Williams. Photo by Liz Dare.

CSIRO has appointed a new Chief of the Division of Horticulture. She is Elizabeth Williams, currently Professor of Botany at the University of Georgia, USA. Professor Williams is an Australian and the first woman to be appointed to the position of Chief of a CSIRO Division. She will take up her appointment in September.

Professor Williams, who is coming home after a five-year absence, believes there is enormous potential for the development of horticulture in Australia.

'I regard this appointment as a tremendous opportunity,' she said. 'There are a number of important horticultural industries in Australia to which research can contribute a great deal.'

Professor Williams began her career at the University of Wisconsin with a PhD in botany and genetics in 1972. She has held positions with the Universities of Melbourne and Kentucky (USA), and also spent over ten years with the recently disbanded New Zealand Department of Scientific and Industrial Research as a plant breeder.

The Chairman of CSIRO, Professor Adrienne Clarke, expressed pleasure at her appointment and at the fact that the Organisation had

now acquired its first woman Chief of a Division.

She said that she had known Professor Williams originally through her work in New Zealand and then during her appointment in Melbourne when they had worked together on several projects in the plant biotechnology field.

The Chairman said she was delighted to receive the recommendation of the Selection Committee, which gave the Organisation the opportunity to recruit a first-class scientist with extensive managerial and industrial experience.

'The fact that this appointment is the first woman to head a Division is an important milestone for the Organisation,' Professor Clarke said, 'as it responds to the figures, which show a real imbalance in the representation of women in senior positions.'

♦♦♦

# CSIRO still a favourite

What with shadow Science Minister Peter McGauran taking us to task for industry's lack of enthusiasm to support research; what with the Government's continuing efficiency dividend; what with the constant threat — and more than threat — of the withdrawal of resources from this project and that, we are inclined to forget that at least the people love us.

Yet another recent survey has shown that of all the voices uttering environmental facts, philosophies and forecasts CSIRO's is the voice most trusted still.

Frank Small & Associates conducted a nation-wide survey this year of 1,300 people in various Australian cities. The survey confirmed their earlier findings that CSIRO is seen by the community as the most reliable and trustworthy source of information about environmental issues, with half of all people interviewed choosing the Organisation above environmental groups, universities, Government environmental authorities, Federal and State Governments and private industry. Environmental groups were the next most trusted, with 27 per cent of the vote, and the rest were nowhere.

At the local level too, time and again communities show their concern when they fear their

own CSIRO establishment may disappear.

At the North Queensland Field Days held in Townsville recently the CSIRO display attracted what might seem a disproportionate amount of publicity, with two television stories, more than 10 radio interviews and four newspaper articles. (Maybe more, but those were the ones Jenni Metcalfe, the Communication Manager for the Division of Tropical Crops and Pastures, counted up after the event.)

'Perhaps the highlight of the media coverage was the story by WIN television,' said Ms Metcalfe, 'which was headed *CSIRO here to stay*.'

Of course, it wasn't just the people loving us that got us all that publicity: it was the efforts of CSIRO staff. But perhaps they come to much the same thing.

Ms Metcalfe, co-organiser of the event, said it had been

difficult working from Brisbane. 'However,' she said, people like Mike Whiting and Helen Rodd from the Davies Laboratory in Townsville made the job a lot easier than it might have been.

'One of the most exciting features of the display was that a number of Divisions worked together to give a united image about CSIRO research for northern Australia.'

The Divisions involved in the event included Tropical Crops and Pastures, Tropical Animal Production, Soils, Wildlife and Ecology, and Entomology. Relevant research from the Meat Research Laboratory and the Australian Animal Health Laboratory was also highlighted.

Tropical Crops and Pastures Chief Dr Bob Clements said he was impressed by the quality of the CSIRO display and by the enthusiasm of the staff who were there to talk to the public.

## Radiophysics unveils new multi-beam antenna

The CSIRO Division of Radiophysics has come up with an antenna that can communicate with as many as 20 satellites at once, and they proudly put it through its paces for the public at a Sydney unveiling on June 24.

The multibeam antenna was developed in Australia by CSIRO with support from the Department of Defence. It means that a single antenna can now track many satellites, instead of the usual system of one antenna per satellite.

Radiophysics researcher Dr Trevor Bird, who led the team that developed the antenna, said the display was designed to show off to possible manufacturers and users of the technology just what it could do. For example, it has potential applications in pay TV and hub stations.

'It's also a cheap way to track several satellites at once,' he said. 'As the world telecommunications market continues to expand it is becoming increasingly impractical for users to use a separate dish for each satellite they need to communicate with.'

'It's a bit like having one

television set to receive all five channels instead of having to buy a different set for each channel.

'Using one multibeam antenna you can send and receive signals to and from up to 20 satellites. These signals might include television broadcasts, telephone calls, scientific data or other information.'

Dr Bird said the multibeam antenna had a separate 'feed unit' for each satellite. These feed units could keep track of their own satellites, so the main reflector (or 'dish') on the antenna did not need to move. All that was needed to access another satellite was to add a new feed unit.

This contrasted with conventional systems, in which the large reflector had to move to track each satellite, limiting the antenna to only one satellite at a time.

♦♦♦

## Hal Hatch despatched again

The University of Göttingen, one of the most eminent in Europe, will award Dr Hal Hatch, of the CSIRO Division of Plant Industry, an honorary doctorate for his scientific achievements in photosynthesis research.

The university has a distinguished record dating back almost 300 years. Numbered among its present and previous staff are no fewer than 14 Nobel Prize winners.

Dr Hatch will travel to Germany for the award ceremony on Tuesday May 19.

## John Stocker awarded honorary degree by UCQ

Chief Executive of CSIRO Dr John Stocker has been awarded the degree of Honorary Doctor of Science by the University of Central Queensland.

The degree was given in recognition of his distinguished contribution to science in both the private and public sectors in Australia and overseas.

# A Matter of Opinion

*This Matter of Opinion focuses on CSIRO's current problems with redundancies. It comes from Dr Art Raiche of the Division of Exploration Geoscience.*

In principle, the idea of retraining and redeployment of 'redundant' workers within CSIRO should alleviate the personal tragedy and organisational shame of tossing competent specialists onto the long-term unemployment scrap heap. Indeed, carrying this principle a step further, the strategic R&R (retraining and redeployment) of 'non-redundant' workers could be a wonderful device to further empower CSIRO by improving its flexibility to respond to new challenges as well as revitalising the existing core workforce.

Unfortunately, there is a competing principle which serves to cripple any serious R&R policy. Under the principle of one-line budgeting, a CSIRO employee has the same standing as a piece of equipment, a piece of property, a vehicle etc. That is, the employee is simply a material asset of a division, which the chief can maintain or discard according to how he or she wants to allocate the budget.

As a specific example, suppose the project upon which a scientist works in Division A is to be cancelled, but that with a modicum of retraining, the skills of the scientist could benefit greatly the work of Division B. A rational organisation, which treated its employees as human beings rather than as a financial asset of a division, would be able to improve its productivity by redeploying the scientist to a higher priority environment in Division B.

One-line budgeting makes this scenario very difficult because the new host division would have to find additional financial resources to employ the scientist. The problem becomes more difficult for very good scientists because under our merit scheme, good scientists are supposed to get paid more than poor scientists and hence are a financial liability to a new division. Incompetent workers who do not deserve promotions are easier to redeploy under our current system.

The naive amongst us would say that the problem has a simple solution. Divisions should be allocated staff (along with salaries and entitlements) separately from other financial resources. CSIRO could then adjust staff allocations to divisions so as to maximise productivity and morale. The sophisticated say that this simply cannot be done because this is the way we used to do it and we cannot be seen as returning to the bad old past.

May I point out that our current system is in fact a very old one. Historians use the term feudalism to describe the highly decentralised system where major lords allocated property to lesser lords and so on down the line. Serfs (scientists) were tied to a piece of land (division) and were regarded simply as part of the holdings of the local lord (division chief).

One characteristic of feudal societies was that they were easily conquered by nations with more centralistic organisations. The effectiveness of the divide and conquer principle has been widely noted throughout recorded history. I mention this because if a future government wishes to split CSIRO (as with New Zealand's DSIR), our post-McKinsey re-organisation will have done 95 per cent of the necessary work already.

I argue that in order to survive, CSIRO must become more amorphous. In order to become less wasteful of human potential, it must reclaim its employees from being regarded as mere divisional assets. In short, we've overshot the mark. Let's advance by going back a bit.

♦♦♦

*The following is of interest in relation to Dr Raiche's proposal. On April 11 the CSIRO Board established a Task Force on Workforce Planning (see CoResearch 347, page 1) and on June 2 it held an extraordinary meeting to receive the recommendations of that Task Force. The first item on their submission reads as follows:*

*'1. CSIRO's ability to survive and prosper is dependent on its ability to act and think corporately. Good 'corporate citizenship' will be accorded high recognition. To emphasise the corporate nature of employment in CSIRO it is proposed that staff will be designated on payslips as 'CSIRO employee currently located in Division XXX at Location YYY'. (Examples of good corporate citizenship are regarded as releasing staff to a higher priority project in another Division; being willing to take on staff surplus to the needs of another Division.)'*

# CSIRO to work with Sydney Water Board on pollution

CSIRO and the Sydney Water Board have taken on a five-year, \$10 million Memorandum of Understanding to conduct joint research.

CSIRO Chief Executive Dr John Stocker and Water Board Managing Director Mr Bob Wilson formally signed the agreement at the Division of Building, Construction and Engineering in North Ryde on June 24.

CSIRO and the Water Board will co-operate for five years on research in areas such as stormwater and sewage movement and treatment; catchment behaviour; and the allocation, reticulation,

recycling and re-use of water.

'One of the top priorities for our joint research program will be to conduct further studies into the action of ocean currents off the New South Wales coast,' Dr Stocker said.

Preliminary results from a CSIRO Division of Oceanography study in January suggest that since 1989 sewage sediment has accumulated on the seabed near the newly completed deep ocean outfalls off Malabar and Bondi.

The study found a large increase in the level of a sewage tracer chemical — Coprostanol — in samples taken from a half and five nautical miles offshore.

'These findings,' Dr Stocker said, 'show just how important it is for us to better understand the way water moves in the natural environment.'

He stressed that these were preliminary results only, which did not give a complete picture. A full analysis of sediment samples, water samples and ocean current information would be prepared by CSIRO over the next 12 months.

♦♦♦

## Queen's Birthday Honours

This year's Queen's Birthday Honours included four ex-CSIRO people, now retired.

•Dr Alan K. Head, who used to be with the Division of Materials Science and Technology, was awarded an AO for his service to science through research into the structure of solids and its application to industry.

•Dr Bill Snowdon, former Officer-in-Charge of CSIRO's Australian Animal Health Laboratory (AAHL), was awarded an AM for service to veterinary science, particularly through AAHL.

•Dr Bernard F. Stone, formerly of the Division of Tropical Animal Science, also gained an AM. His was for service to science and Scouting.

•A Public Service Medal (PSM), went to Mr Alan Eyles, who until recently worked with the Division of Tropical Crops and Pastures, for his outstanding service in the fields of administration, management, finance and policy.♦

## Academy of Science Fellows

CSIRO supplied two of the ten new Fellows recently elected by the Australian Academy of Science.

One of the new Fellows is Dr Graeme Caughley, Assistant Chief of the CSIRO Division of Wildlife and Ecology in Canberra. His major contributions have been to theoretical population dynamics and the methodology of studying and analysing communities of large vertebrates, particularly wild hoofed animals and kangaroos.

Dr Bob Frater, Director of the CSIRO Institute of Information Science and Engineering, was also elected to the Academy. Dr Frater is internationally known for his work on advanced electronic systems for use in observational radio astronomy, and particularly for innovative image-synthesis techniques developed for the University of Sydney's Fleurs Synthesis Telescope.♦

## Van Bushby: 'Best Paper' at Australian Agronomy Conference

Dr Van Bushby of the CSIRO Division of Tropical Crops and Pastures has been awarded the Conference Prize for the best contributed paper presented at the Sixth Australian Agronomy Conference this year.

Dr Bushby's paper was on 'Nitrogen Fixation in Mungbean — Expectation and Reality.' It dealt with the problem of maximising grain yield while sustaining soil fertility.

The judges were impressed by, among other things, his note of caution on a too-ready acceptance of the axiom that legume crops are fertility-builders.

♦♦♦

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# New CSIRO Chairman addresses new CSIRO union

*Well, it's finally happened. CSIRO's two main unions — the Officers' Association and the Technical Association — have combined into a single body, the CSIRO Staff Association.*

*Some staff will still belong to other unions, but by and large there will now be one union representing the interests of all staff in the Organisation. This should give them a stronger voice, and also make them easier for management to deal with.*

*In any case the moment was perceived as historic, though hardly dramatic, and the Chairman of the CSIRO Board, Professor Adrienne Clarke, agreed to address the inaugural meeting of the new body.*

*She chose as her topic 'CSIRO in a changing world and a changing Australia', and the following is a series of snippets from her carefully prepared and annotated speech. (Copies of the full speech are available from Barbara Magi, Office of the Chief Executive and Board, on (06) 276 6696.)*

Professor Clarke remarked that Australia and the world were undergoing massive change. Australia, she said, was a small player on the world scene, and to some extent 'buffered by other forces.'

'Yet we are,' she said, 'in the midst of this buffeting, grappling with our own history and trying to shape a future for ourselves in this new world.'

Clarke referred to a similarity between conditions in Australia now and those of 100 years ago, when the country had 'spiralled downwards from the gold rush' into a long and deep depression.

In the period between these two depressions, she said, the nation had recovered and Australians had been shielded from harsh economic realities. But no more.

'The only way we can recover now,' she said, 'is to become an internationally competitive economy and to get there quickly.'

'We are, however, by all the measures, still slipping backwards, and the amazing thing to me is that it is being accepted in Australia with such tolerance and complacency.'

'We have not achieved the feeling of common purpose or the mind-set required to achieve economic growth.'

'Without this growth leading to wealth generation, we will

not be able to sustain our health and social services, our standards of education will slip further and our ability to preserve our environment will be diminished.'

'We will be unable to create employment opportunities for the next generation.'

Professor Clarke stressed that we had to become efficient, not by the standard of 'our own poor past practice' but by world standards.

She said there were 'many reasons why we are not competitive — apart from our history and our culture of looking inwards'.

'Faults are on all sides,' she said.

'There are faults by the unreasonable and sometimes illegal demands of unions, there are faults by the short vision and poor management practices in the corporate sectors and, of course, our famous entrepreneurs of the 80s haven't helped anything.'

'However, we have to shake ourselves free from the past and look to the future positively.'

She said that CSIRO had the technical and intellectual capacity to enhance Australia's competitiveness, but 'the trick is to focus our energies and our skills to the most productive pay-off for the country'.

The Organisation had several

important advantages, according to the Chairman, which it often failed to recognise. Scientists, she said, know what 'world's best practice' is in their own field, unlike many businesses; they are used to recognising and being comfortable with initial ignorance, and then moving systematically from ignorance to knowledge; and their culture encourages a high standard of openness, disinterestedness and honesty.

...

Professor Clarke then asked what CSIRO was going to do now.

'We have made a good start,' she said. 'The priorities exercise has identified areas where we have a good chance of benefiting the country by focusing our technical and scientific skills.'

'World trade markets have moved toward services and manufactures and away from minerals and agricultural commodities.'

'For example, in 1950, agricultural trade in the world was 43 per cent of all trade; today it is 9 per cent.'

'Growth is in services and complex manufactures.'

'There are some interesting comparative figures, such as: one tourist having a holiday in Australia for 10 days brings in



funds equivalent to the sale of 20 tons of wheat.

The Chairman said that the Board had done quite a lot of work on the question: What are the major challenges facing the world, and which of these challenges will be applied to Australia?

'We have then,' she said, 'to come to grips with the more specific question: How do we respond to these challenges and opportunities?'

'We see the vital importance of our Organisation for the future of our country. We see that we must be able to move resources quickly and effectively to make the most of opportunities and demands.'

'We also recognise that this inevitably causes some difficulties, but we are confident that we can work with the Staff Association to resolve these difficulties.'

'The difficulties that winding down programs causes in personnel redeployment are resolvable.'

'We are, I believe, working very productively with the Association to establish principles for offering re-training and re-deployment within the Organisation.'

'I believe that we have a unity of purpose,' she said, 'a vision of how our Organisation can help Australia.'

'I am also confident that we will work together very productively in the future.'

'Indeed, we can work towards becoming a model of co-operation in Union-Management interactions, rather than suffering the destructive and selfish confrontations that we have seen in many other situations, which have weakened our ability to rise above our common difficulties.' ♦

## Queenslanders top Agricultural Science

**Two Queensland scientists were the only ones to be awarded The Australian Medal of Agricultural Science for 1992, and one of them was from CSIRO.**

The medals were presented recently by the Australian Institute of Agricultural Science (AIAS) to CSIRO's Dr Bob Lawn and University of Queensland researcher Dr John Irwin.

The national president of AIAS, Dr John Leslie, presented the medals to Dr Lawn and Dr Irwin and said the medals were an award for outstanding contributions to agriculture.

'This does not mean just

agricultural science,' he said. 'These medals represent real contributions to agricultural industries.'

'It is very unusual to have two medals given to two people in one State. And it is even more unusual for them both to be in the area of plant sciences.'

Dr Lawn, a scientist at the Division of Tropical Crops and Pastures in St Lucia, Queensland, is a leading international expert in grain legume crops such as soybean

and mungbean. Dr Irwin has been a leader in the fight against plant diseases in soy-bean, safflower, oats, lucerne and tropical pasture legumes.

'These men have not only opened up new areas of knowledge but have made agricultural science practical,' Dr Leslie said.

Dr Lawn has been involved in breeding several new varieties of mungbean and soybean, and has also made a major contribution to better management of

these crops.

The mungbean industry is now worth more than \$10 million a year to Australia in export dollars, while local soybean production is worth \$25 million in import replacement.

Dr Lawn attributes his success to 'colleagues and early mentors.'

He quoted the aphorism: 'You can always see further when you stand on the shoulders of those who went before you'.

Dr Lawn's commitment to developing new crops for Australia has seen him on an uphill struggle against

diminishing research funds, but he said that the research did have its rewards.

'Industry has played a special role in funding our research,' he said. 'However, less government spending on research has caused some real problems.'

Dr Irwin also acknowledges the problems of funding and the importance of collaboration.

'Most of my work has been based on strong co-operation with the Queensland Department of Primary Industries, CSIRO and people here at the University,' he said. ♦



## Letters to the Editor (from page 2)

I have just seen the letters from Di Miller and Carol Wilson in *CoResearch* No. 347 and thought they reflected very well my views on the insulting gender biased headline on your report of Professor Clarke's appointment. I would not have felt compelled to write had it not been for your gratuitous editorial comment. You have obviously missed the point entirely in justifying your position as 'well-intentioned and intelligent'. I would have hoped that CSIRO had advanced well past the point where it was necessary to use 'valuable *CoResearch* space' on such an issue, and I am sure there are many like me who wish this debate was over. But apparently our hopes are in vain.

The attached quickly collected signatures might give some indication that these views are not limited to two women in one Division.

**Lyn Wojtasszak**  
Personnel Manager  
Entomology

We the undersigned support the comments of Di Miller and Carol Wilson in criticising the *CoResearch* coverage of Professor Clarke's appointment as Chairman.

Dr Penny Greenslade, Dr Brian Fletcher, Dr Jim Cullen, Mr Norm White, Dr Bill Vogt, Mrs Cheryl Gaye, Ms Libby Hissink, Mr Mark Hardwick, Mr John Jaques, Mr Geoff Rowse, Mrs Pat O'Mahony, Ms Sue Donne, Mrs Iris Train, Mr Eric Hines, Mr Tom Weir, Mr Murray Upton, Dr Ian Naumann, Mr Jo Cardale, Ms Helen Beens, Dr Ken Key, Dr Andrew Calder, Dr Ebbe Neilsen, Dr Wendy Milne, Dr Phil Spradbery, Mr Thomas Kay, Ms Jody Scrivener, Ms Libby Godfrey, Ms Robyn Neel, Dr E. Jane Wright, Mrs S. Corey, Dr Marina Tyndale Biscoc, Ms Jo Walker, Dr Paul Wellings, Mrs Gillian Harris-Mayes.

Dear Editor,  
I note two letters in the May 1992 issue of *CoResearch* commenting on the headline introducing the appointment of Professor Adrienne Clarke as the incoming Chairman of the CSIRO. You have invited comment. Whilst loath to enter into a debate in a publication essentially for circulation 'in-house', I would have to support the comments of your two correspondents. I found the headline surprising and rather unfortunate.

**Yours sincerely,**  
**John C. Radcliffe**  
Director-General of  
Agriculture  
South Australia  
Member, CSIRO Agricultural  
Sector Advisory Committee

Dear Editor,  
I concur with the comments made by Carol Wilson in her Letter to the Editor in the May issue of *CoResearch*.

Her taking up of 'valuable *CoResearch* space' was far more relevant than the items to which she referred.

**Ian Haynes**  
Dairy Research Laboratory

Dear Madam Editor (a compliment, not a slight),  
I write in response to the published letters from Di Miller and Carol Wilson, both of the Division of Radiophysics, in the May issue of *CoResearch*, on the use of 'sexist' language.

What is sexist language is not a simple question. Further, its relevance should not be seen in the context of an isolated exercise but as part of the battle to end the discrimination against women in society and in providing a full range of opportunities for women in employment, education, finance, etc.

The goal of improving the lot of women in our community is the relevant and pre-eminent objective, not the mechanical application of a rule such as that one must never refer to the gender of a woman because it's demeaning. The goal is the thing, not the means to that goal.

It is not sexist to state a plain fact, such as that I am a woman, that CSIRO's new Chairman and a recently appointed Chief are both women, that most scientists are men or that most personal assistants are women, etc.

Blindly mouthing or following a dogma and making presumptions as to writers' or readers' motives or thoughts, or to the final implications of statements with no recourse to reality, is a strategy that inevitably cannot help the cause of feminism.

What does and will help the cause of feminism is the identification and promotion of suitable role models such as CSIRO's new chairman, Professor Adrienne Clarke, and the appointment of CSIRO's first female Chief. Does not CSIRO's 'Women in Science' program provide good evidence of this strategy?

Being honest, seeing reality, is the only effective way to victory. Falling into the trap of denying the existence of gender will not help feminists and women; it will help chauvinists, paternalists and all those uninterested in seeking an end to unjust discrimination against women.

**Hermine Martz**  
a committed feminist  
Public Affairs Unit

*More letters, on other topics,  
but no more space this issue*

## Caption Competition



A clear winner! The following delightful caption to the above photograph came from Lynn Pulford of Science and Careers Education — 'If I pull another metre through we will have enough waxed wire to finish the project'. Lynn also submitted 'Now would Monsieur like the Yahoo Serious style?'

Second prize (maybe it's time we actually started giving a prize, apart from the glory, that is?) was 'What do you mean you're not IBM compatible?' from David O'Brien of the Division of Building, Construction and Engineering. Other entries from the industrious and talented David were: 'Oh, so that's how you get that squiggly line on the screen'; 'Ah, yes, I see the problem Hymie. I'll adjust the horizontal hold. Did you just say, BZZZZT?'; and 'And this little piggy went WEE WEE WEE WEE all the way home'.

Harold Breiteringer of the same Division offered 'Summer vacation students being put through their paces: 'Now I will just increase the voltage a bit and we will see what happens!!'; and 'These X-ray glasses now come in five fashion colours!'

Two entries struck a grimmer, but very topical note —

'Don't worry, this retraining won't hurt a bit' came from David Farrant of the Division of Applied Physics, and 'There — another CSIRO manager programmed to smile and say, 'We are all doing very well'.

The photograph below is another period piece from Rodney Teakle, the CSIRO Archivist. Go for it!



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# CSIRO's star apprentice

Rick McDonald from the CSIRO Division of Atmospheric Research has won the Arthur Frost Apprentice Award for this year. This is the second year in a row that the award has gone to an apprentice from this Division.

Named in honour of a CSIRO workshop supervisor, the award carries a cheque of \$500 as well as an inscribed plaque.

Mr McDonald, who comes from Tongala in northern Victoria, began his welding apprenticeship at CSIRO in Highett. He was chosen for the position from more than 400 applicants.

At the end of last year, following his transfer to the Aspendale site, McDonald

completed his apprenticeship. His skills have been integral to many of the Division's scientific programs, helping in the construction of aircraft instruments, a volcanic ash cloud detector, a fluid modelling tank and a satellite data ground station.

Presenting the award, CSIRO Chief Executive Dr John Stocker complimented him on the superb quality of his metal work.

'I am attempting to learn the intricacies of the craft during my weekends,' said Dr Stocker, 'but I will never be able to approach the standard achieved by Rick'.

In his acceptance speech, Mr McDonald paid tribute to the encouragement and assistance given to him by Mechanical Workshop Supervisor Mr Reg Henry. He also acknowledged the help he had received from CSIRO Apprentice Co-ordinator, Mr Roger Digby.

Mr McDonald has returned to the country to take up a position in Shepparton with a dairy company.

♦♦♦



CSIRO Chief Executive Dr John Stocker inspects some of the impressive welding handiwork of Mr Rick McDonald, winner of this year's Arthur Frost Apprentice Award. Left to right, Dr Stocker, Workshop Supervisor Mr Reg Henry, Mr McDonald, and Dr Graeme Pearman, Assistant Chief of the Division of Atmospheric Research.

# Forest Products and Forestry join forces for international Expo



Above, David MacArthur, Information Officer for the Division of Forest Products, helps promote some CSIRO books as well as the work of his Division at the recent Forest Industries Machinery Exposition. The CSIRO stand, one of the largest of the separate exhibits, was produced by the Divisions of Forest Products and Forestry, and featured projects and equipment of interest to the logging, sawmilling and timber-processing industries. They drummed up lots of interest among the 20,000 visitors to the exposition, the fifth of its kind to be held. It is held only every six years and has grown into an international event, with exhibitors from Europe, America and Asia as well as Australia and New Zealand. This year's expo was held at Myrtleford in north-eastern Victoria. David MacArthur said, 'If the reaction of visitors to the display of CSIRO books is any indication, sales should increase dramatically. Our participation in this event was well worth while from both business and publicity points of view.' ♦

# Fewer smiles at Soils as Chief retires

Dr David Smiles has stood down, for personal and health reasons, as Chief of the CSIRO Division of Soils.

In his nine years as Chief of the Division of Soils, and previously as Chief of the Division of Environmental Mechanics for three and a half years, Dr Smiles has raised the profile of research into land degradation and soils to the level of national debate. He also moved the Division from \$200,000 external earnings in 1983 to \$2 million in 1992.

Smiles pioneered an outcomes orientation for research in the Division and was one of the first Chiefs in CSIRO to move to a program/project structure for research. He has been highly respected in the Division for his open style of management,

which has encouraged new ideas, supported full discussion of issues by staff members and allowed staff to pursue personal and professional development in their careers.

As a soil physicist he has an outstanding international reputation, and he is expected to accept an invitation to a visiting professorship at the University of California, Berkeley, before returning to the Division to continue his research career.

Until a new Chief is appointed Dr John Williams will be acting Chief of the Division.

♦♦♦

# New Chief for Tropical Animal Production

An internationally acclaimed scientist who gained his doctorate studying cattle diseases at the University of Queensland in 1980 is to be the new Chief of the CSIRO Division of Tropical Animal Production, based in Brisbane and Rockhampton.

Dr Philip Jennings will take up his new position in July, following the retirement of the current Chief, Dr Dave Mahoney, after 33 years service to the northern livestock industries through CSIRO.

Dr Philip Jennings, currently with the CSIRO Division of

Biomolecular Engineering, gained his PhD studying 'cancer-eye' in cattle and working closely with cattle producers. For this work, he was presented with the Ian Clunies Ross Memorial Award by the Australian College of Veterinary Scientists.

'While my first priority will be to familiarise myself with the range of the Division's work and the opportunities this provides,' Dr Jennings said, 'I am also keen to maximise the Division's effectiveness in interacting with industry, particularly the northern cattle

industry.'

As new Chief Jennings will be responsible for implementing the remaining recommendations of CSIRO's 1991 review of its tropical animal production research. Key recommendations already under way include the establishment of the Rockhampton Beef Cattle Research and Extension Centre and the closure of the Division's small unit at the Davies Laboratory in Townsville.

Dr Jennings led the team that discovered 'Mini Shears', a smaller, tougher version of the Gene Shears technology. ♦

# Bill Emerson wins Prescott Medal

Dr Bill Emerson of the CSIRO Division of Soils has taken out this year's Prescott Medal for Soil Science for his outstanding contribution in that area.

Dr Emerson has the distinction of having a scientific method — the Emerson Dispersion Test — named after him.

The test is used to test the strength of dams and of soils under stress. It is based on a simple classification system — drawn from research results — of the relative strengths of the bonds between the clay particles in soil aggregates. ♦

## From Back o' Bourke to the Top End

(A Day — or two — in the Life of a CSIRO Cross-Divisional Program)

Following on from their successful meeting at Louth (near Bourke, NSW) last year, the Land and Water Care Program rangelands team met in picturesque Katherine on April 29 and 30.

This thriving pastoral and tourist town in the Northern Territory was the setting for lively debate and discussion among scientists from the Divisions of Tropical Crops and Pastures and Wildlife and Ecology.

The meeting was the culmination of two years of team-building and hard work for the members of the Land and Water Care rangelands projects.

Most used the Land and Water Care meeting as an opportunity to catch up on some northern field work. Some travelled cross-country from Canberra, Townsville,

Brisbane and Alice Springs to gather the very latest results to bring to the meeting. Morale was high, and it was apparent that any initial differences had been ironed out to form a cohesive, communicative team.

The first day of the meeting was about results — what's been produced and what will be produced coming into this final year of Land and Water Care funding.

Day two involved visits to the research sites at Manbulloo and Scott Creek, near Katherine, where grazing and pasture trials are established.

In the afternoon Di Mundy summarised communication activities and led a discussion on 'Reporting the outcomes of Land and Water Care'. Geoff Pickup provided an update on Land and Water Care management and future directions.

The discussion widened into a lively debate on the management and running of CSIRO multi-divisional programs in general.

...

One conclusion of the meeting was very clear: there are still many lessons for the Organisation to learn from such cross-divisional programs. They can work well, but they need full commitment and energy — and excellent communication — from all the players. ♦

## Back to basics?

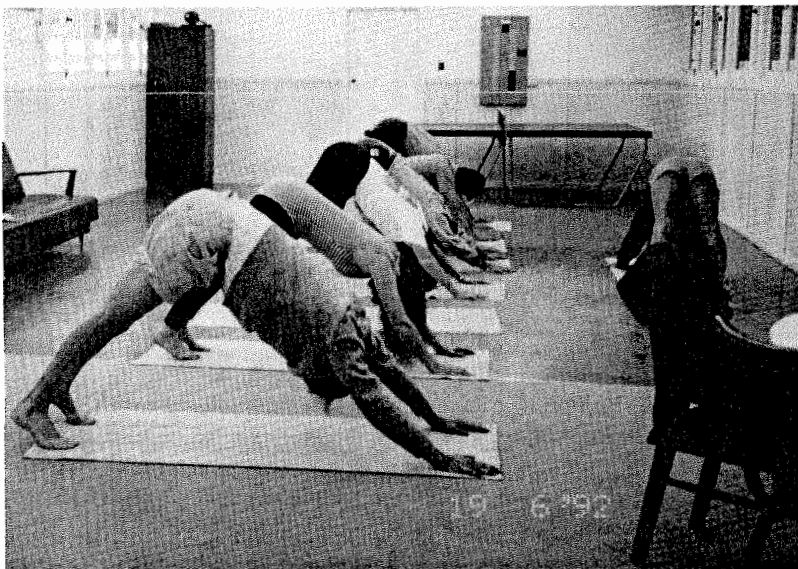


Above, Brian Myers, CSIRO Division of Forestry scientist, with his two daughters, left, Joanna (8) and right, Juanita (10).

The poem below was submitted by Shirleyanne Myers, and written by her daughter Juanita, aged 10. Juanita's father, Brian Myers, who is the head of the Wagga Wagga Effluent Project, CSIRO Division of Forestry, is not yet in on the secret.

Shirleyanne says that Juanita is 'immensely proud of the environmental work her father does, and is certainly a budding scientist/environmentalist herself'.

## Sound buildings, sound bodies ...



Staff at the Division of Building, Construction and Engineering at North Ryde set an example for other CSIRO staff with their enthusiastic compliance with the modern emphasis on the importance of adopting a bottom-up approach in the workplace.

CSIRO staff at the Division of Building, Construction and Engineering have long been researching durability of building materials and maintenance of structures. They are now close to solving the problems of maintaining their own bodies.

Every Thursday at 12:30 p.m. a motley crew of DBCE staff, clad in weird disguises, can be observed dashing to the auditorium to engage in an hour of stretching, bending, head-standing and various other poses vertical and horizontal.

These yoga sessions have been going on for just on a year now. The devotees swear they feel younger, nimbler and more bright-eyed than their more sedentary colleagues who have not yet discovered the secrets of reduction of back, knee and other joint problems.

But it's never too late to start. The recently retired Guru of building research, Geoff Anderson (who returns every week to attend yoga class) says, 'The overall result is that you have good muscular tone, a feeling of well-being, you're not troubled by stress and as a bonus you develop abilities that will amaze the opposite sex — I'm typing this with my toes while drafting an accreditation report at the other end'.

Penny Morse invites all North Ryde staff to join in (call her on 934-3433) but it might be a competency worth developing at other sites? We could put it in our PPEs, perhaps ...

A poem for my Dad  
by Juanita Myers

### Wonderful Worlds

Our world is wonderful  
Of wonderful creatures it's full  
Our world is like a great big ball  
But if we're not careful we'll lose it all!

Our world is being ruined by air pollution  
So we need to come up with a solution  
We could help to save our planet  
Or we could help to over-jam it.

If we all worked like my father does  
And didn't use so many cars  
This world would be a better place  
And we wouldn't need to look at the greenhouse case.

Well that is all I have to say  
But why don't you really think about this today?

...

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PO Box 225, Dickson ACT 2602  
Phone: 06 276 6567. Fax: 06 276 6641



# CoResearch



No. 349

August 1992

CSIRO's staff newspaper

CSIRO  
AUSTRALIA

## CSIRO headquarters returns to Melbourne

a later edition of the story sent out to staff on Friday August 21

Twenty-one years ago the headquarters of CSIRO was moved from Melbourne to Canberra. Now it's moving back. On both occasions the reason given was to be where the action was: in the first case political action; in the second, industrial and scientific.

Following a CSIRO Board meeting held on August 18, at which it was unanimously decided to move the Organisation to Melbourne, the Chairman of the Organisation, Professor Adrienne Clarke, said 'The primary incentive for a move from Canberra is the accelerating change in CSIRO to a greater customer focus and the need for the Chief Executive to have ready access to the business community.'

The Chief Executive and about five staff will be transferred to the new office from January 1993, with

another 30 or so to follow later. The proposed time for the transfer to be complete is 1995 or 1996.

Dr John Stocker, Chief Executive of the Organisation, told *CoResearch* the move would give CSIRO a more effective presence in the industrial heartland of Australia. In answer to objections that Melbourne was regarded by many as more wasteland than heartland he said that 'as Australians we have to do what we can to counteract that'.

'One of the elements that's

going to be important for that recovery is innovation and research — CSIRO's work. Our presence in Victoria is strong, and much of that work contributes to the Victorian economy.'

However, he pointed out that these were not the driving reasons for the choice of Melbourne as opposed to other capital cities, any of which would have been suitable from the point of view of getting into closer touch with business.

'The criterion that is of most importance to me is that I believe the Chief Executive ought to be located on or close to one of the Organisation's active research sites, within a short travel distance from a primary airport. That criterion is best met by Melbourne,' Dr Stocker said.

He said that all other capitals had been considered and discussed by the Board, who had looked at the matter of a

shift of headquarters at three previous meetings.

The paper that Dr Stocker presented to the Board on August 18 offered a range of options for Members to consider and choose between. The options appear below.

### The chosen option

A two-stage relocation of up to 35 staff to Melbourne:

- (a) the establishment of the Chief Executive's personal office with about five staff transferred to Melbourne from January 1993, supplemented by several locally engaged support staff;
- (b) the establishment of a core corporate group of about 35 from January 1995 or 1996.

### The rejected options

#### Option 2

Continued location in Canberra, primarily at the Yarralumla and Black Mountain sites.

#### Option 3

Relocation of 100 staff to Melbourne from January 1994.

...

The paper also offered a list

of advantages and disadvantages for each option. Those for Option 1, the chosen option, appear below.

#### Advantages

CSIRO headquarters located in an industrial heartland; Clear signal of commitment to working with industry; CSIRO seen to be taking the initiative to move away from Canberra; Strong support from Federal and Victorian Governments; Could be catalyst for concentrating like-minded groups; Provides enhanced chance of increasing R&D thrust in manufacturing; Positive signal to CSIRO staff located outside Canberra; Good access to a primary airport reducing the travel commitment by CE; Proximity to Chairman and Board.

#### Disadvantages

Reduced presence of the CE in Canberra; Backlash from Government, bureaucracy; Criticism from competing States (including the ACT); Criticism from the rural sector; Accusation of bias towards Victoria; Criticism from environmental

continued on page 3

## Good recession budget

CSIRO has suffered a one per cent cut, in real terms, in its direct appropriation budget this year. However, in the current recession, many other organisations are probably worse off.

CSIRO's direct appropriation budget has increased in dollar value from \$446.3 million in 1991-92 to \$456.3m in 1992-93.

The main items affecting CSIRO's direct appropriation budget in real terms are the additional infrastructure funds of \$3.3m (up from \$14.7m to \$18m), the painful efficiency dividend tax of \$4.2m and the repayment of part of the 1991-92 inflation allowance of \$3.7m. All in all, we have lost \$4.6m.

Capital infrastructure has been well funded, with the Government allocating an extra \$12m for this financial year and the next. Together with past commitments this takes the year-by-year allocations across the 1991-94 triennium to \$14.7m, \$18m, and \$12m. That is, CSIRO has received \$44.7m of the \$60m sought from Government.

This budget's \$24m allocation (over two years) for infrastructure (i.e. capital works and services and equipment) will enable CSIRO to proceed with a major employment initiative

proposed by the CSIRO Board. About \$6m will be spent over the next two years on employing 200 18 to 20-year-olds for 18 months each.

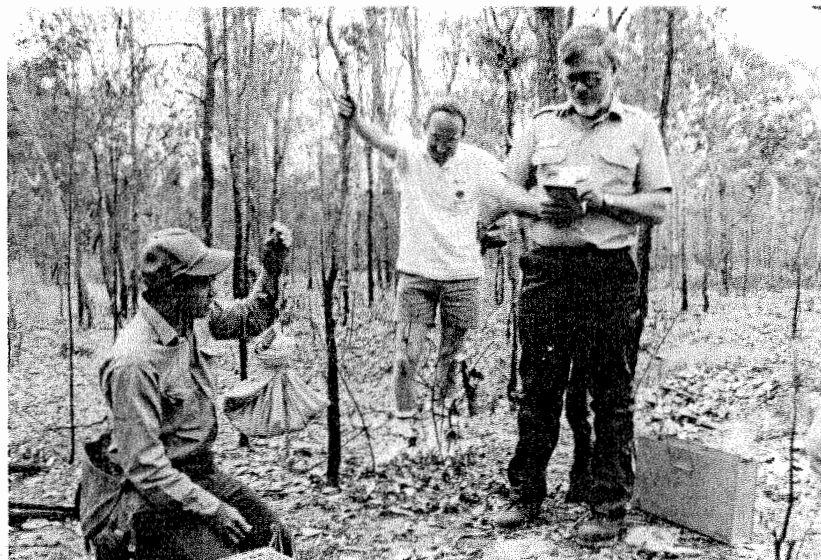
Despite the recession and its effect on business and the rural sector, CSIRO expects sponsored research expenditure to rise from \$162.4m last financial year to \$170.8m this year. This amounts to a five per cent increase, well in excess of inflation.

Overall, CSIRO's budget of \$685.7m well exceeds the 1991-92 expenditure of \$620.5m. The budget includes: \$456.3m in direct appropriation; \$170.8m in sponsored research expenditure; \$24.4m in earned revenue (such as royalties, interest and proceeds for the sale of assets, publications and produce); and \$34.2m in unspent revenue and appropriation.

The projected expenditure of external funds, based on estimates for sponsored research and earned revenue, amounts to 32.9 per cent of CSIRO's total budget for 1992-93. This compares favourably with the 1991-92 outcome of 28.7 per cent.

**more on budget in Chief Executive's column, page 2**

## Ross Free visits Kapalga



CSIRO in Darwin played host last month to the Minister for Science and Technology, the Hon. Ross Free. After his first visit to Kapalga Research Station in Kakadu National Park 12 months ago, Mr Free was keen to see what progress had been made in the Division of Wildlife and Ecology's fire ecology and management research. Mr Free (centre) looks on as Dr Dick Braithwaite and Gus Wanganeen (kneeling) record data about small mammals. The Kapalga Fire Experiment is the first landscape-scale experiment established for multi-disciplinary research into fire ecology in tropical savannas. Results will be used to produce fire management plans that satisfy the specific goals of land managers in northern Australia.

# The Budget and CSIRO



On August 18th the Government handed down the Budget and tabled the White Paper on Science and Technology. The outcomes are a mixed blessing for CSIRO.

We're in a mode where we've demonstrated our capacity to respond to and lead the process of change in Australia. We've also demonstrated very clearly and publicly that Australia gets a return on its investment of dollars spent in science and technology in CSIRO.

Budget projections indicate that despite the crisis in the Australian economy CSIRO is able to project an increase of 5 per cent in its expenditure financed from sponsored research funds in the next financial year. This demonstrates the vigorous efforts made by people throughout the Organisation to strengthen and increase the relevance of our links with research users.

In this context I had high hopes that we would achieve a secure funding base to allow us to plan our future.

We had argued very strongly that the planning of science and technology, and in particular our workforce planning, is something that doesn't happen from one week to the next, or from one month to the next, or even from one year to the next, and that therefore the Government should consider a resource agreement with an agreed level of funding that would incorporate the following elements.

- The so-called efficiency dividend should be removed, and in return we would forego access to the annual new policy process.

- We should have a guarantee that the May 1989 Statement, aimed at restoring the funding base of the research agencies, would be continued for a new triennium.

- Our sadly depleted capital funding base should be restored by an appropriation of \$20 million a year toward our capital program of \$35 million a

year, approved by the CSIRO Board as a prudent investment in our buildings for the future.

**What did we get?**

- Firstly, we've had recognition of our need to support the capital infrastructure Budget with the statement by the Government that \$12 million will be provided to CSIRO in each of the next two financial years toward that capital budget. This was indeed a welcome appropriation, and owes much to the strenuous efforts of Minister Free.

- Secondly, we argued strongly that the recognition of the importance of industrial research and development should lead the Government to prolong indefinitely the 150 per cent tax deduction for R&D. This did occur, and is an important positive signal to industry.

- Thirdly, we still bear the so-called efficiency dividend. By the time the May Statement funds cut out in June 1994 this 'dividend' will have cumulatively stripped more resources from our Organisation than have been provided by those funds over the period.

- Fourthly, we've had no joy on the prolongation of the May '89 Statement funding, for which we will again be going in battling in the context of the next budget.

The spectre of an end to the Government's practice of matching dollar for dollar the rural R&D levy funds was raised in the lead-up to the Budget, but was later, fortunately, laid.

The eligibility of our Organisation to participate in R&D syndicates has been severely curtailed. This was a real blow, as in recent months we have been successful in progressing three R&D syndicates, which will

materially assist the funding of work in four Divisions.

The White Paper carried an announcement of the appointment of Dr Michael Pitman as the new Chief Scientist, and I congratulate Michael on this appointment. Michael is a scientist with great experience within CSIRO and in academic and government circles, a mix of experience that suits him admirably to the task. I look forward to a continuing productive relationship between our Organisation and the Office of the Chief Scientist under his leadership.

**What then are the consequences?**

Some important building programs will be progressed, with a lesser impact on the resource dollar, allowing us to relieve many cases of overcrowding of staff, to replace outmoded facilities and to provide sorely needed new laboratories.

A second excellent consequence is that \$6 million of the allocation that we gained in the budget will enable us to proceed with a major employment initiative proposed by the Board last month. Under this initiative two hundred traineeships, lasting about 18 months, will be created for 18-20 year olds.

**The upshot of the Budget round?**

Perhaps with the Government facing a \$13.4 billion deficit we should have expected a budget that would be less than satisfactory in its outcomes for CSIRO.

But just perhaps we could have been justified in expecting that the powerful arguments about building intellectual capital as a springboard for national recovery might have been heeded more in the cold and angular halls of Parliament.

In the event, the Government has decided to consider the issue of a resource agreement which will address the continued application of the efficiency dividend, continuation of the 1989 Science Statement funding and the general level of the funding base in the context of the 1993-94 budget.

But moving away from those halls and back into our own, I was particularly pleased and impressed recently by a project that I had the pleasure to visit in action — in one of its meetings — at the Information Services Branch at Albert Street.

This was a Total Quality Management group, in which people from two Divisions, at the Clayton site, had got

together to solve a very important issue relating to the use of the store there — how it was to be funded, and what procedures were to be entered into by people using the store.

The first thing I was impressed with at that meeting was the dedication with which the team members had tackled an important issue for the Organisation.

Their work had been crowned by the production of a report, which was immediately seen by management as an acceptable and important contribution to solving the problems.

At the meeting Teresa Dickinson, from the Division of Mathematics and Statistics, showed me how they've used the principles of Total Quality Management, co-operatively as a group, to great effect. I think that that kind of multi-Divisional program, in improving some of our administrative efficiencies and procedures, is every bit as important to our smooth functioning as some of the more 'flagship' programs.

I'll be taking a personal interest in spreading further this very useful tool of Total Quality Management. It's yet another area in which we can be seen to be leading the public sector in achieving efficiencies. Teresa and Jeff Prentice have prepared an article on their program for CoResearch readers, and it appears on page 8.

...

Finally I want to mention Dr Ted Henzell, who retired this month from his position as Director of the CSIRO Institute of Plant Production and Processing.

Ted has been one of the great strengths of CSIRO in a time of change. He's been one of the pillars on which the new CSIRO has been built, and I'll miss him personally and professionally in the Executive Committee.

He is a person of wisdom and humour — quite a rare combination of attributes — and I think that Queensland science will be much richer for his decision to go back there.

CSIRO wishes him health, happiness and fulfilment in his retirement. There is a tribute to him on page 8.

John Stocker  
Chief Executive of CSIRO

## Letters to the Editor

*The author of the following letter calls it an advertorial and asks if that is satisfactory. The answer is yes, I think that's fine, but sheer volume of letters is starting to be a problem (see page 7).*

Dear Editor,  
Recently I was invited to the CSIRO Division of Chemicals and Polymers library to demonstrate our SAGE: Science and Geography Education CD-ROM. SAGE is produced by the ISB.

SAGE is a CD-ROM disc containing references to some 20 popular general science and geography journals, including *Australian Geographic*, *Ecos*, *Habitat Australia*, *New Scientist*, *Rural Research*, *The Helix*, etc. SAGE is predominantly aimed at the senior secondary school market, and is the ideal tool for students working on assignments and projects.

After installing SAGE I let the small audience loose on the PC to interrogate the system. After many searches were carried out on a number of topics, initial skepticism turned to rapture, and they purchased (via their corporate credit cards) the SAGE CD-ROM on the spot.

A week later I received a call from one of the Divisional library staff saying that SAGE had been in constant use amongst the Chemicals and Polymers staff, presumably for answering their daughters' and sons' assignments. The library staff managed to sneak in a few SAGE searches between Divisional staff users, but with great difficulty, to answer student letters that had come in to the Division.

As a means of helping your children's education why not consider making a donation of SAGE on CD-ROM, or in hard copy, to their school. Not only will it help your children, it will be of benefit to the whole community, and might even relieve some of the pressure on Divisional staff who spend a lot of their time on student requests.

Finally, at a cost of \$125 per annum for SAGE (two issues per year) you have a justifiable deduction for your next tax return! Ring Di Brodie on 03-418-7215 for more information.

Max McMaster  
Information Services Branch

More letters on page 6

## CSIRO Magazines staff spilled; production moves to Melbourne

Production of the CSIRO magazines *Rural Research* and *Ecos* and the CSIRO Business insert in *Business Review Weekly (BRW)* will move from Canberra to Melbourne early next year.

The Canberra-based CSIRO Magazines group will be dissolved, leaving seven staff potentially 'surplus to requirements'. They will have the option of applying, and receiving preferential consideration for, four new positions to be created in Melbourne — a Managing Editor for each publication and a graphic design post.

The changes follow broad acceptance by the CSIRO Institutes (which fund the publications) of a proposal prepared by Information Services Branch General Manager Jinette de Gooijer.

According to CSIRO Magazines Manager Robert

Lehane, the three publications are prospering under the current system. 'Subscription sales of *Ecos* have grown by over 60 per cent to more than 8,000 in the past four years. The arrangement, now in its third year, to distribute *Rural Research* through *Australian Farm Journal* has quadrupled its circulation to more than 20,000. And CSIRO Business has a monthly circulation of 70,000 in *BRW*.'

'There is no suggestion,' Ms de Gooijer said, 'that the value of the Magazines is under question. The proposal seeks only to do it cheaper without compromising existing standards.' ♦

## Whitley Award for *Insects*

For the second year running, a book from the CSIRO Division of Entomology has won the highly regarded Whitley Award. The award is presented by the Royal Zoological Society of New South Wales, not every year, but only when there is a work that is considered to make a major contribution to the advancement of Australian zoology. The winning book is *Insects of Australia*. (*The Moths of Australia* won the award last year.)

In its announcement of the award, however, the Division expressed the fear that the economic downturn and the Federal Government's efficiency dividend might make the book 'a very hard act to follow'. 'The Division is suffering under these budgetary constraints,' it said, 'and a number of positions may be lost as a result.' ♦

## More honours for Entomology

Dr Gary Fitt, from the CSIRO Division of Entomology, has been awarded the Cotton Researcher of the Year prize for 1991.

Dr Fitt is the project leader of the *Heliothis* Biology Unit at Narrabri. He was given the prize for his contribution to pest management in cotton.

The prize was awarded by the Australian Cotton Growers Research Association at the 6th Australian Cotton conference held at Broadbeach, Queensland, on August 11-14. ♦

# CSIRO headquarters returns to Melbourne

continued from page 1

groups; Perception that the exercise is a sham, driven by ideology and only of symbolic value; Possible fallout in terms of being seen to support ALP in Victoria; Considerably more costly than the Canberra option; Fewer savings for investment in research; Loss of key staff and expertise, particularly under options 1(b) and 2; Considerable emotional energy would be required by CE.

...

The revised, currently projected cost of the move to

Melbourne is \$2.35 million, and that of the re-location of other staff to Canberra's Black Mountain and Yarralumla sites \$7.3 million. The sale of the Limestone Avenue site is hoped to raise up to \$18 million, and Dr Stocker says the developments on the Black Mountain site will not begin until a prospect of the sale of the Limestone Avenue site is in hand.

He also vigorously assured *CoResearch* that he was designing the move in such a way that he would ensure there was no net cost at all to the Organisation, but rather a net

dividend, over the next few years.

'In asset realisation there is always a drain on resources in the short term,' he said, 'but over a slightly longer term we will gain.'

Dr Stocker compared the case to the current redevelopment of the North Ryde site, where he said there was also an unavoidable short-term cost but where a longer term gain was confidently expected from the sale of the sites.

In the case of the sale of the Canberra site there would definitely be a financial dividend for research, he said,

since the expected sale price comfortably exceeded the projected cost of the relocation within Canberra. This would provide at least several millions of dollars for research as soon as the property was sold.

The shifting of CSIRO headquarters to a scientific site rather than the separate site it occupies at the moment was one of Dr Stocker's first publicly expressed wishes when he joined the Organisation as its Chief Executive in 1990.

The Board took up this theme and asked for costings on moves within Canberra and to

cities other than Canberra.

There will almost certainly be some staff reductions from the exercise, but Dr Stocker called headquarters staff together before the Board meeting to assure them that the interests of all staff would be taken into account whichever of the options was chosen.

'Research support overheads are an issue constantly under scrutiny to ensure the competitiveness of our Organisation. This said, the present examination of the Corporate Centre location is not primarily about staff reductions,' he said.

♦♦♦

## PM opens new Hobart labs



Above, Chief of the Division of Forestry, Dr Glen Kile, and Prime Minister of Australia Paul Keating, during a tour of the newly constructed laboratories in Hobart. The laboratories, located on the campus of the University of Tasmania, are for the use of both the CSIRO Division of Forestry and the Co-operative Research Centre for Temperate Hardwood Forestry.

On August 5 Paul Keating, Prime Minister of Australia, officially opened new Hobart laboratories constructed for the use of the CSIRO Division of Forestry and the Co-operative Research Centre for Temperate Hardwood Forestry.

The Centre will research tree breeding and techniques to maximise growth rates. It will also look into methods of protecting eucalypt plantations from insect and animal browsing.

The Division of Forestry's move to the campus of the University of Tasmania is hoped to increase interaction between the two bodies as well as stimulating the training of young scientists in forest research.

The total cost of the new laboratories was \$5.4 million. Of this, \$3 million was

contributed by the Federal Government as part of the 1990 Taspak initiative. The balance was provided by CSIRO (\$1,850,000), the University of Tasmania (\$500,000) and the Co-operative Research Centre (\$50,000).

Speaking at the opening, Dr Glen Kile, Chief of the Division, said that use and management of Australia's forests had been a matter of community concern for some time, and that debate on this had obscured the fact that forestry should and must be a very important Australian industry.

'This country has the land base,' he said, 'the environment, the technical capacity, and the unique range of native tree species to make forestry an even more major contributor to Australia's economy.'

Mr Keating also spoke of the importance of Australia's natural endowments, but added, 'As advantageous as those things are to us, have been to us, the most important thing we've developed ourselves is our creativity and our brains.'

Dr John Stocker, Chief Executive of CSIRO, also spoke, and thanked the Prime Minister for his clear statement on the importance of intellectual capital for Australia's development.

♦♦♦



# A Matter of Opinion

by Nick Alexander, Information Services Branch, Melbourne

Although he started his working life as a mere journalist, Arthur Koestler became one of the world's most widely read science philosophers and historians. At the age of 77, overcome by failing health, he took his own life — only a few years before the collapse of communism in Eastern Europe. Had he lived a few years longer the final irony of world events would most likely have appealed to him.

A committed Marxist in his 20s, Koestler underwent a complete reversal of faith. In 1951, at the age of 46, he chronicled the decline of socialism as follows:

'The Socialist parties could change a few laws and institutions; they could not change the human climate, the spiritual outlook of the people whom they governed — and that failure sealed the fate of Socialism as a historic movement.' He attributed to socialism a 'lack of imagination and, even more, a lack of human approach to the people. For 'the People' are regarded through the Socialist bureaucracy's eyes as a target for propaganda, not as a living reality whose interests, tastes and foibles must be understood and shared if you are to change the face of the world.'

Is there a message here for the new managerialism which has swept into power in so many of our institutions? I believe Arthur Koestler would have been similarly dismissive of managerialism's mechanistic view of the world, with all its emphasis on process and outcomes and its insistence that all activity can be dissected, individually analysed and quantified, including the human elements in the system.

How often do you see the words 'people' or 'personnel' these days? We see instead 'staff positions' and 'human resources'. Managerialism seems to view all the units of the workforce as essentially interchangeable, as long as they meet the required performance criteria of 'application of knowledge', 'problem solving', 'adaptability'. The new order seems not to want to cope with such things as loyalty, integrity, or (heaven forbid) spiritual awareness.

Mind you, our political leaders aren't exactly setting a shining example. They appear quite happy to let us believe that Australia's manifold problems can be overcome by the application of a new econometric model. This sterile vision for Australia is profoundly disturbing and in blatant parody of the living reality which must be understood if they are to change the face of Australia.

So will the new managerialism work in CSIRO? The problem is that we won't know for perhaps another decade. All the science now being applied to help our ailing economy was done at least several years ago. Whether the new managerialism, with its corporate structures and strict performance-directed objectives, actually results in better science, remains to be tested.

Arthur Koestler, I feel sure, would have his reservations. But then, he was probably a holist. His life never did seem to follow a strategic plan. His devoted wife and secretary followed him in suicide — still in good health at the age of 55. I wonder what her PPE would have looked like?

♦♦♦

## PPE — appraising the appraisal — good ideas will be rewarded ...

by Carmel Macpherson, General Manager of Human Resources,

By now we should all have completed the first cycle of the Performance Planning and Evaluation program, and the Human Resources Branch is keen to find out what you thought of it. Some of you have already given us comments on Stage 1 of the program, and we are about to start a review of Stages 2 and 3. We will try to evaluate the effectiveness of the program against its objectives, which are —

- to decide individual work and competence objectives in the light of organisational objectives;
- to improve individual and

group understanding of work responsibilities and standards;

- to improve communication between staff member and manager and improve feedback on performance;
- to identify personal development needs for consideration in the Personal Development Planning process;
- to assess — effectively and fairly — the overall performance of staff to allow proper distribution of merit rewards.

### Four sections

The review will have four main sections —

- a written survey of a sample of staff members. We are designing this in consultation with the staff associations;

- a collection of statistical information and reactions from Divisional implementation teams and human resource managers;
- a survey of six work teams to study the impact of PPE on teams;
- an invitation to all staff to provide comments or suggestions. (You can write to Ms Anama Morriss, Manager of Staff Appraisal and Performance Management for the Human Resources Branch in Canberra. Alternatively, you can write to Mr Mike Scott at the Division of Animal Health in Parkville, who is helping with the review.)

During September and October the Consultative Council and the Executive Committee will

consider the findings and recommendations of the review.

### Competencies

We are also conducting a related but separate review of the CSIRO competency model this year. It is being done separately because competencies are the basis of other human resource management systems such as workforce planning, recruitment, training and career development, as well as the appraisal and reward systems.

...

### Your chance to design a new rating scale

Many people have already given us some excellent comments on PPE. In your comments, you

mentioned fairly consistently that you are unhappy with the rating scale, particularly with the term 'satisfactory' for people who achieve their work objectives and competencies.

Now is your chance to come up with a better ranking scale. This is not one of those offers where your good ideas fall into a black hole! Not only do we promise to publish the most interesting suggestions, in a later edition of *CoResearch*, but we also offer a prize of a selection of books and clothing from the CSIRO Bookshop to the winner. (Please send your entries to the Editor of *CoResearch* by September 4 this year.)

♦♦♦

## Hollingworth: 'a gift from God'



A few months back CSIRO launched an exhibition called 'Will Pigs Fly?', which has been enjoying great success as it makes its way around Australia via major shopping malls. As well as informing, the exhibition aims to open up the debate about the ethics of genetic engineering, and in this it seems to have been having some success. David Goeldner, Communication Officer with the CSIRO Division of Tropical Crops and Pastures in Queensland, thought the readers of *CoResearch* might be interested in one recent public endorsement of genetic engineering.

Prominent Australian and social welfare campaigner, Archbishop Peter Hollingworth, came out in support of genetic engineering when he launched the Brisbane leg of the 'Will Pigs Fly' travelling exhibition recently.

Given that genetic engineering is with us to stay, Archbishop Hollingworth said, it was important that society be kept well informed of the issues and implications of this powerful technology.

Before an invited audience of academics, politicians, CSIRO scientists and Brisbane-based journalists, he commended the exhibition as a 'great thing' because it de-mystified science and began to break down some of the myths and prejudices that surround concepts such as genetic engineering.

'I regard genetic engineering as something positive,' Archbishop Hollingworth said.

'It is, after all, a gift from God the creator — and if that is so then it can't be bad.'

But the Anglican Archbishop warned that society must be aware of the ways in which genetic engineering technology can be used.

'The way we deal with the possibilities and the dangers is in our own hands,' he explained.

'We are the stewards of God's creative order and it's our responsibility.'

Archbishop Hollingworth posed a number of provocative questions concerning genetic engineering, typifying the concerns of many Australians.

One of the more challenging questions raised dealt with the issue of whether industrialised nations were justified in taking genetic resources from developing countries to stock their own gene banks.

Conceding that this was a

difficult question to answer,

Archbishop Hollingworth suggested that society should look more closely at the ethical side of this problem.

'We need to understand the way in which deals are negotiated between countries and between companies,' he said.

Despite this problem, Archbishop Hollingworth remained convinced of the positives associated with genetic engineering.

'Through genetic engineering one would hope to see that the world is fed properly, that there is better quality and quantity of protein, a better nutritional diet for everybody, and that as a result there would be better housing, better quality of life, and the opportunity for employment,' Archbishop Hollingworth said.

♦♦♦

# CSIRO Index – a call for papers

Steve Sunter, Managing Editor of the CSIRO Index, has an unusual complaint: it seems he is *not* drowning in paper ...

You could fill a swimming pool with paper if you had a copy of every article ever published by CSIRO scientists. There have been many productive (and prolific) scientists over the years.

Countless trees have died in a good cause supplying paper to spread the word of CSIRO's breakthroughs. The information revolution has finally caught up with us and is now causing much suffering from 'information overload'. Keeping track of Divisional publications can be a real headache.

In fact, there is a central collection of all CSIRO publications. It is the CSIRO Index Collection held in East Melbourne. Citation details of all publications received for the collection are entered into the CSIRO Index database (CSIX).

CSIRO Index is not new. It was first established as a database in 1969 and became searchable on-line in 1986. Papers have been collected since before the Organisation began as CSIR back in 1926.

It is an information resource that several Divisions have used to great advantage. A wide variety of flexible, computer-typeset publications lists can be generated painlessly from the CSIRO Index database. And, in most cases, these services are provided free to all CSIRO staff.

Data is currently supplied in

standard electronic formats (currently via floppy discs).

CSIRO Index focuses the collective publishing output of CSIRO into a major information resource. Citation details are maintained to international standards. This allows information from several Divisions to be simultaneously extracted in a uniform format.

In the last couple of years the database has been given a new lease of life. It is now run on a SUN computer using PROGRESS software customised by Management Information Services.

The supply of *all* papers published by CSIRO Officers has always been a mandatory responsibility of the authors. Unfortunately, the automatic supply of papers to CSIRO Index has lapsed in some Divisions. (The specific guidelines for supply of publications are spelled out in Policy Circular 92/4, April 1992.)

All documents are assigned subject keywords by specialist indexers. These are later used as 'handles' by people seeking articles on particular subjects, e.g. Information Officers,

Communication Officers, and Librarians. It is also accessible online by external organisations who subscribe to the CSIRO AUSTRALIS information retrieval service.

A determined effort is now being made to ensure all publications are supplied promptly to CSIRO Index. This includes identifying publications that may have been missed over the last few years.

Some Divisions run a tight ship and track their publications extremely well. Others sometimes suffer because there is no person directly responsible for gathering in Divisional output.

According to Policy Circular 92/4, every Division is now required to nominate at least one officer to co-ordinate publications supply. If you are unsure who your publications representative is, check with your Divisional Information Officer, Communication Officer, Librarian or Editor.

All queries about services from CSIRO Index should be directed to Steve Sunter, Managing Editor, CSIRO Index, (03) 418 7253. Address for publications supply: CSIRO Index, CSIRO Information Services Branch, 314 Albert Street, East Melbourne.

♦♦♦

# CSIRO's RV Franklin rescues shipwrecked families off Lae



On July 31 the CSIRO Research Vessel Franklin rescued thirty-one drowning people from a capsized tug in the ocean southeast of Lae, a port on the northern coast of New Guinea. The following is a telex received by Christian Peterson, Division of Oceanography, from the master of the vessel, Neil Cheshire, on that day.

FRANKLIN SAILED LAE 1415H 31ST JULY. AT 1640H VESSEL WAS DIRECTED BY HELICOPTER TO AN UNPOWERED BARGE WITH PEOPLE IN DISTRESS. ITS TUG THE 'LANDSEA EAGLE' HAD CAPSIZED VERY QUICKLY AFTER COLLIDING WITH ITS OWN BARGE AT 0400 31ST IN HEAVY SWELL. 1 ADULT AND 2 CHILDREN WERE UNABLE TO ESCAPE ON TO THE BARGE AND WERE LOST WHEN TUG SANK. TWENTYFOUR ADULTS AND SEVEN CHILDREN ALL PNG NATIONALS WERE TAKEN ABOARD RV FRANKLIN USING SHIPS RESCUE BOAT BETWEEN 1730 AND 1748 POSN 7.07'S / 147.23E, 32 MILES SOUTH EAST FROM LAE. ALTHOUGH WINDS WERE LIGHT THERE WAS A MODERATE TO HEAVY SWELL AND FRANKLIN CREW DID AN EXCELLENT JOB TRANSFERRING THE SURVIVORS WITHOUT INCIDENT. THE SURVIVORS WERE WITHOUT FOOD OR WATER, THEY WERE GIVEN A HOT MEAL ABOARD FRANKLIN AND LANDED AT LAE AT 2100H 31ST JULY. FRANKLIN SAILED FROM LAE 2130 31ST.

# CSIRO builds better mediatraps

(and the world *does* beat a path to our ambassadors!)

It's always been hard, Lord knows, coming up with new schemes to promote CSIRO research in ways that grab the media by their short, medium and long waves.

When you're trying to do it for research that spans seven divisions and a dozen labs and field sites it can start to seem almost too hard.

Of course it's basically just a matter of making sure the left hand knows what the right is doing, but in such enterprises there are so many hands involved that you start to feel like a sort of latter-day Fagin co-ordinating all his young pickpockets at once into a single swift lightfingered assault on a herd of wealthy shoppers.

But it's not beyond human ingenuity. CSIRO recently pulled off just such a co-ordinated attack on a scattered band of news-shoppers grazing along the Australian coast. It was accomplished, with dash, on

the morning of June 30. And, for the interest of all us ambassadors, here's how it was done.

The site chosen for the launch of CSIRO's Coastal Zone Program was a sandy beach on the Cooks River, close to the spot where it flows into Botany Bay, near Sydney's Kingsford Smith Airport. The dignitary chosen to launch it was the Chairman of CSIRO, Professor Adrienne Clarke.

A small audience, mainly media, listened to speeches from the Chairman, Program Leader and Head of the Centre for Environmental Mechanics Dr John Finnigan, and Dr Doug Cocks of the



Division of Wildlife and Ecology.

They watched demonstrations of water and sediment sampling techniques by Dr Graeme Batley and Dr Simon Apte of the Centre for Advanced Analytical Chemistry.

Two features of the launch particularly charmed the media: the first was the

dressings of the Chairman in a bright yellow plastic raincoat, and the second was the decision to back up the national story with a local perspective.

In every mainland capital city on that day, a team consisting of a scientist and a communicator contacted the media in their area to offer a local comment.

It worked beautifully. At last count, the launch of the Coastal Zone Program had featured on ten television news broadcasts, three of them national, CSIRO scientists had been interviewed on 32 radio stations; and the story had been written up in 19

newspapers. And the after-image of that brilliant yellow raincoat is still lingering, with a CSIRO-flattering fuzzy glow, before the eyes of many who watched the news that night.

... Fagin was played by Toss Gascoigne of the Centre for Environmental Mechanics, with the artful prompting of Wendy Parsons of the Institute of Natural Resources and Environment.

The pickpockets were: Barbara McKaige in Darwin; Jenni Metcalfe, Keith Smettem, Bob Clements and Roger Jones in Townsville and Brisbane; Robyn Turner and Warwick McDonald in Canberra; Paul Holper and Chris Crossland in Melbourne; Beryl Morris in Adelaide; and Margaret Bryant, Rob Gerritse, Charles Jacoby and Peter Murphy in Perth.

Wardrobe: Toss Gascoigne.

## Letters to the Editor (from page 2)

Dear Editor,  
The July '92 issue of *CoResearch* featured an article on two earthworm projects with which CSIRO is involved, 'Earthworms Downunder' and 'Worm Watch'. These projects aim to increase school children's participation in and awareness of science. The *CoResearch* article gave the impression that two people in CSIRO produced the school activities package that is central to the 'Worm Watch' project.

I would like to indicate that many people, both within and outside CSIRO, contributed to the 'Worm Watch' package. In particular, major efforts came from the South Australian Departments of Education (who published the package) and Agriculture. Angela Collier, who wrote most of the text, and Chris Bayly, who co-ordinated the inputs of the many people involved, deserve special mention. In failing to acknowledge the efforts of these people, a good opportunity to indicate CSIRO's co-operation with others was sadly missed.

**Geoff Baker**  
Division of Entomology

Dear Editor,  
Congratulations to *CoResearch* (July issue) for highlighting the activities of two successful new CSIRO initiatives — the national Wormwatch and Earthworms Downunder programs.

The end results speak for themselves. Wormwatch is an 80-page package in a similar vein to the successful Saltwatch and Frogwatch programs. It was an idea of the Institute of Plant Production and Processing communicators, was taken up by Landcare, developed by the South Australian Education Department and is now integrated into curricula for primary and secondary students throughout Australia. Earthworms Downunder is a well-researched and detailed scientific program on earthworms available to CSIRO Double Helix Club Members nationally.

Both programs complement each other, are supported by CSIRO, are closely linked and use CSIRO's National Information Network as a contact point. Both programs expose CSIRO research to the tax-paying public and are already proving popular with both schools and Double Helix Club members. Each represents considerable effort and co-ordination behind the scenes from a number of individuals throughout CSIRO — thanks to the scientists whose research provided the facts for both projects and who gave up so much time to contribute and edit

copy — Dr Geoff Baker, with help from Vicki Barretti and Penny Carter, Division of Entomology, and Dr Bernard Doube, Dr Ken Lee and Mr John Buckerfield, Division of Soils. And Ross Kingsland, CSIRO Science and Careers Education, who supported the original idea and developed the Earthworms Downunder research project with co-ordinator Linda Meisel and Co-operative Research Centre summer student Gaby Gilpin, who produced a worm I.D. kit. Also Paul Reekie, Kevin Jeans and Kerri Slaven from CSIRO Editorial Services in Melbourne, who developed the Worms Poster and earthworm handouts, not to mention Ted Hamilton who now co-ordinates the poster sales through the CSIRO bookshop. Enter IPPP communicators, who provided copy for Wormwatch and John l'Ons and Ted Henzell, IPPP Director (recently retired), who championed the cause and provided funds.

Add this to the negotiations for funding outside of CSIRO and you start to get a picture of the amount of co-operative effort that went into taking the ideas of both programs to reality. Both Wormwatch and Earthworms Downunder attracted external funding. Wormwatch sponsors included the Co-operative Research Centre for Soil and Land Management based in Adelaide, Landcare, the South Australian Departments of Education and Agriculture. Earthworms Downunder sponsors included the Co-operative Research Centre for Soil and Land Management and the National Soil Conservation Program.

The National Information Network encouraged the Education Department of South Australia to support Wormwatch by setting up a Wormfile and Wormfacts access for Australian schools through Nexus, the national computer network for schools. These Worm files complement the CSIRO Science and Geography Data Base that is now also accessible through Nexus. That was brought about by the effort of Len Giles Peters, Manager of Australis, in July 1991. These services have obvious benefits for CSIRO in spreading its message to a large number of young Australians in a simple way.

It is clear that individual efforts by CSIRO staff make a huge difference to the end result and that co-operation within and across organisations can really work.

**Cathy Sage**  
co-Wormwatcher and  
Communicator  
Division of Soils

*Yet more letters, and a note about that, on page 7, opposite*

## Caption Competition



*First, an apology to David Farrant of Applied Physics in Sydney and to Ross Hansen of Tropical Crops and Pastures in St Lucia. In the last Caption Competition it was Ross who contributed 'There — another CSIRO manager programmed to smile and say, 'We are all doing very well', but through carelessness I managed to attribute it to David. Sorry, both.*

*Two winners this month: Derek McKay of the Australia Telescope National Facility, with this entry for the above photograph: 'Although Bob was still hopeful of finding his pet budgie alive, the tufts of feathers near the engine air intake did not present a good omen'. Equally grim and clever, but closer to home (well, for the moment, anyway) was the entry from Lynn Pulford, Science and Careers Education: 'Corporate Centre staff prepare for the move to Melbourne'.*

*There was an interesting entry from Geoff Roberts of Building, Construction and Engineering — 'Mutter ... mutter... 'It's 1992' he sez. 'Describe it without being gender specific' he sez.'*

*David O'Brien of the same Division sent 'Yeah Chief, it says 'I ACME rocket propelled research aircraft. Pour in research grant, stand in bottle, light wick and run. Do not hold in hand.' and 'How long ago did it fall off, Captain Kirk?'*

*There were three entries from Dr Andrea Horvath, Co-ordinator of the CSIRO Science and Careers Education Centre in Melbourne — 'These ones aren't as easy to put together as the balsa wood ones. Oh well, that'll have to do.'; 'Gee, time flies; maybe there are a spare few minutes in here ...'; and 'Maybe my contact lenses are in here.'*

*For the next challenge I have moved away from science past (thank you, Rodney Teakle) and into science future. The photo below, of high school students being tempted to take up careers in science, comes from Gary Lewis of Science and Careers Education. Let your imagination loose ...*



## Ted Henzell wins Farrer Medal on eve of retirement

This year's Farrer Memorial Medal Award has gone to Dr Ted Henzell, who has just retired as Director of the CSIRO Institute of Plant Production and Processing. (See also photo and story on page 8, and Chief Executive's column on page 2.)

Announcing the award, Farrer Memorial Trust Chairman and Director-General of NSW Agriculture, Dr Kevin Sheridan, said the Trustees were most

impressed by Dr Henzell's outstanding contributions to agricultural science in research and administration.

'Dr Henzell is recognised as an international authority on the efficient use of nitrogen in tropical agricultural systems,' Dr Sheridan said. 'His work provided a rationale for the use of nitrogen fertilisers on grass pastures and made important advances in the measurement of nitrogen gains and losses in

agricultural systems.'

An agricultural scientist, Dr Henzell studied at the University of Queensland, to which he is now returning in his retirement, where he gained First Class Honours in Agricultural Chemistry and the University Gold Medal. He won a Rhodes Scholarship in 1952 and got his Doctorate from Oxford University in 1955. In 1983 he was made an Officer of the Order of Australia. ♦



## Still more Letters to the Editor (from page 6)

Dear Editor,  
We have all been informed, many times, that CSIRO has an ongoing commitment to staff training. Is this a genuine commitment or empty rhetoric? In the minds of many staff it is the latter, especially given the recent decision by the Human Resources Branch not to continue support for, and funding of, Regional Training Co-ordinators within CSIRO.

For some staff there has been no shortage of costly and time-consuming tropical island self-improvement training but for most staff the only sources of training in fields relevant to their position have been external courses from outside organisations that the staff members have had to find for themselves. This has led to an *ad hoc* approach to training by individuals and Divisions that is both costly and time-consuming for the Organisation. The problems in this style of staff training are obvious. They include: staff in remote localities being disadvantaged in regard to access and cost; unnecessary duplication by Divisions in the same city or even staff on the same site; increased costs for one-off courses; and a lack of a consistent human resource training and development policy.

Surely the most logical solution to these problems is the utilisation of a central regionally co-ordinated body using the PDP section of the PPE forms where training requests for staff can be studied and the most cost-effective way of providing that training can be organised. If the use of PPE is to be taken seriously it would be heartening to think that requests for training were also given serious consideration.

The RTCs [Regional Training Co-ordinators] can also assist Divisional Human Resources staff to achieve their Divisional training needs. The lack of support by the Human Resources Branch for the RTCs does not bode well for the long-term success of a training and personal development strategy being developed from PPE. In their initial 12 months of operation, the RTCs have

already demonstrated that a co-ordinated approach to training and development can be of benefit to both staff and Divisions. Hopefully the abandonment of the RTC program is only temporary and it will be reconstituted before the expertise and networks built up over the last 12 months are lost.

The continuation of the RTC program is now in the hands of individual Institutes and it is hoped that it will be continued; perhaps the Institutes will respond in the interest of the whole Organisation. With the concept of RTCs being supported by Institute and Divisional Resource Managers and staff associations, it seems that the Human Resources Branch is the only one out of step. Perhaps it is time for the Human Resources Branch to remind themselves why they exist and stop their petty internal buck-passing.

Steven Davis  
Technical Officer  
Division of Tropical Animal  
Production  
Indooroopilly

Dear Editor,  
I would like to assure Steven that the matters raised by him in his letter were not overlooked in deciding on the future of the four Regional Co-ordination positions.

The background on this decision, was that  
• the Human Resources Branch initiated the four Regional Training Co-ordination positions in 1991 on a one-year trial basis, which expired in June this year;  
• the Human Resources Branch did not decide to withdraw funding of Regional Training Co-ordinators. The positions were funded by the Institutes and managed, on their behalf, by the Human Resources Branch;

• In April this year, the Human Resources Branch reviewed and reported to the Institutes on the achievements of the trial period and the value regional training co-ordination could add in the future. The Institutes referred the report to their Divisions and sought their response. The result was that there was little

Divisional support for continuing the service, except for one Institute and its Divisions which have now decided to appoint their own Institute Training Co-ordinator.

In the Branch's view, the Regional Training Co-ordinators did a good job under difficult circumstances. Any new initiative is difficult, particularly when it is a trial. During the trial, many Divisions were unable to provide training and development information from PPE forms early enough for the RTCs to co-ordinate training and to develop economics of scale in training costs. Doubtless this affected Divisional enthusiasm for continuing the service.

With the end of the RTC trial, Divisions and Units retain full responsibility for analysing their training needs and ensuring the delivery of training

opportunities using data from PPE. They will recognise that their response to RTCs must result in their greater commitment to the management of staff training and development within Divisions.

CSIRO has a genuine commitment to staff training and development as evidenced by an annual expenditure target of around \$13 million. Many Divisions provide specific allocations for training and development in their budgets. Ensuring that this commitment is converted into effective and well targeted training is a responsibility which is shared by all managers and staff at all levels throughout the Organisation.

Ms Carmel Macpherson  
General Manager  
Human Resources Branch  
Canberra

Dear Editor,  
Having just received and read

the July '92 edition of *CoResearch*, I am prompted to write to congratulate you on the most positive issue I can remember reading in 20 years employment in CSIRO. I realise that there may not always be a predominance of good news to publish, but I am sure that there are always some success stories which could be found for each issue. The *tone* as well as the content of this publication made me feel proud and excited to be part of such a dynamic and successful organisation. If it struck me in that way, I am sure many other staff members would have felt the same way after reading it. Feelings of 'corporate citizenship' will be strongly promoted if you can continue to publish *CoResearch* in a similar way. Well done!

Yours sincerely,  
Ian R. Dick  
Division of Manufacturing  
Technology

### Attention all CoResearch readers (and writers!) — a change of policy

*As you may have noticed, the Letters to the Editor section is getting longer and longer. More and more often I have to put off publishing people's letters for one or even two issues. That's a pity, because our surveys show that you, the readers, think it is one of the most important parts of the paper.*

*When it comes to the rest of the paper, it is many years now since it has been possible to come anywhere close to including all the good stories that are sent in or suggested. In fact, for most issues of CoResearch there is about four or five times more material left out than put in, and that's apart from the shortening of pieces that do go in. Of course I start with the obvious deciding factors — which stories arrive soonest, which seem most interesting or important to the Organisation as a whole, but over the years guidelines for inclusion have had to become stricter. For example, obituaries or tributes to departing staff members are no longer included unless they seem of general interest to staff in all Divisions. (They still appear in Divisional and site newsletters of course, and in local papers where appropriate.) Similarly, single-Division or single-site fun-runs, barbecues and fund-raising events usually miss out, though I do try to include some of this sort of material, especially Open Days or exhibits at public shows, and especially if they have relevance to the whole Organisation.*

*But policy hasn't previously had to be so rigorous with letters from staff. I have always given a very high priority to staff opinions, and valued above all other features of CoResearch the forum it offers for open debate and criticism. Until now I have been able to print virtually all letters, including those used for the Matter of Opinion column, without any cutting beyond the few changes necessary to make them conform with house style.*

*But I am going to have to change that policy, I think, at least for a time, to the extent of asking writers to keep their submissions to around 200 words if possible. That way I should be able to fit them all into the next available issue, when what they say is still fresh and relevant.*

*(Having said all that, and the laws of the universe being what they are, no doubt I will receive no letters at all for the next issue. Ah well ...)*

...

## CSIRO in \$21 million deal to develop new drugs

CSIRO has announced a \$21 million agreement with Macquarie Bank and AMRAD Corporation to develop a range of new chemicals that show promise as drugs of the future.

Under the agreement CSIRO will refine and test chemical compounds with

potential as pharmaceuticals from among those it has developed over the past six years.

Dr George Holan of CSIRO and Dr Stephen Locarnini of Fairfield Hospital have collaborated over this period in the development of compounds that are effective against

viruses.

The syndicated R&D agreement is for a three-year further development program testing whether the chemicals are effective as drugs and whether they have side-effects.

The Chief of CSIRO's Division of Chemicals and

Polymers, Dr Tom Spurling, said that the agreement could lead to Australia's developing and manufacturing a range of new and effective pharmaceuticals that could help alleviate some of the more unpleasant and scientifically puzzling diseases of our time.

'They could also create

valuable exports for Australia,' he said.

Dr Spurling said that under the agreement the R&D syndicate had invested a total of about \$21 million. This gave the syndicate members rights to CSIRO's existing antiviral technology.

♦♦♦

## CSIRO's Corporate Annual Report 'Highly Commended' in awards

It's only a couple of years now since CSIRO was sent a sharp reprimand from the Federal Government for producing an annual report that was of 'too high a quality'.

Of course, what they meant was that we were spending too much money on it: it was too glossy, too colourful, too up-market.

CSIRO did a rethink, agreed, and changed over to a low-budget, two-colour model — strictly for the information of Parliament. No bells. No whistles. No public distribution.

And no prizes, either, presumably.

But they were wrong. This year the corporate annual report was 'Highly Commended' in its class — Statutory Agencies — in the annual report competition run by the ACT Division of the Royal Institute of Public Administration, Australia (RIPAA). The 'Highly Commended' rating is the equivalent of second prize.

Given that it was the first time the Organisation had entered its report (and rumour has it that you're never allowed to win

first time) that's not bad going at all.

The citation read, in part — 'This report was highly commended by the judges as providing a very clear picture of the year's activities of what is

an extraordinarily diverse organisation. It did so in a manner that met the requirements of the Parliament, was very readable and presented much information in an easily comprehended manner.' ♦



Above, left to right, Ms Jenifer North, Manager of the Public Affairs Unit's Corporate Communication, Ms Annie Schuster of the CSIRO Graphic Design Unit (CSIRO Magazines), and Mr Jeff Fitzgibbon, the Unit's Writer and Editor display their trophy. The team produced CSIRO's first annual report to win a prize — a 'Highly Commended' rating in the Annual Reports Awards of the Royal Institute of Public Administration in Australia.

## 'TQM in CSIRO' makes an impact

by Teresa Dickinson and Jeff Prentice, Division of Mathematics and Statistics

The Total Quality Management (TQM) in CSIRO project has been operating since November 1991. Four pilot projects have been conducted, looking at the processes of grant applications, delegations in purchasing, training of telescope users and cost sharing for joint facilities. In different ways, each of the teams has used the TQM approach to solve problems and develop and implement new and better systems.

One of the positive aspects of

the use of TQM in CSIRO has been the synergy between several CSIRO Divisions in coming to terms with quality management and its impact on organisational decision-making.

Samantha Hanger, Finance Manager for the Division of Chemicals and Polymers, is a member of the pilot project team involved in establishing mechanisms for sharing costs for joint site facilities. She says, 'I gradually learned that introducing TQM techniques would help alleviate problems caused by staff having preconceived agendas. The team

persevered to get a successful result. Above all I could see that a CSIRO focus rather than a Divisional focus was needed to overcome different internal management styles'.

The TQM exercise has highlighted the value of working in teams. Members were chosen on the basis of their knowledge of the process under investigation, and not on their position in the hierarchy. Another cornerstone of TQM is that informed decisions about management problems are made on the basis of data, rather than relying solely on intuition and opinion. This seemingly common-sense idea provides a real challenge in confronting organisational myths and preconceptions.

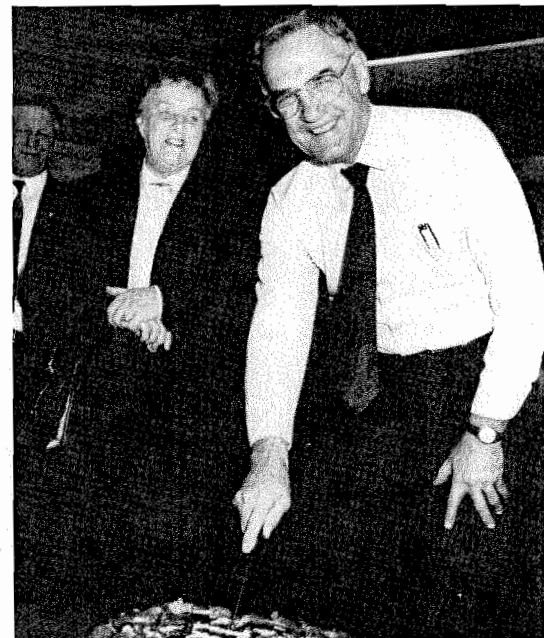
Facilitators were used in each of the pilot projects to help the teams in their work. They worked with each team at every level, from assuring that meetings were well structured and that teams were functioning well through to introducing working tools.

The TQM way of working is proving its worth in improving the systems with which we work across the Organisation. In the longer term, this can only mean more resources for research. ♦



Dr John Stocker, Chief Executive of CSIRO, attends a meeting of the Joint Site Facilities Total Quality Management in CSIRO project team. Left to right, back row, Ian Marwick, Mike Falkner, Sinout Yacoub, Ian Thomas, Samantha Hanger; left to right, front row, Teresa Dickinson, John Stocker, Geoff Marchant.

## Ted Henzell retires



Above, Dr Ted Henzell cuts the cake at his farewell party, watched by his wife Frances and Dr Roy Green, Director of the CSIRO Institute of Natural Resources and Environment. (Photograph by John Houldsworth.) Dr Henzell has been with CSIRO for more than 36 years, and for the past four he has been Director of the CSIRO Institute of Plant Production and Processing.

From 1977 until 1988, when he took up that post, he was Chief of the CSIRO Division of Tropical Crops and Pastures. Dr Henzell has spent most of his career in tropical agriculture and is internationally known for his scientific work on the nitrogen cycle in agricultural systems. He has undertaken a number of missions overseas, including consultancies for the World Bank and stints as an advisor to Australia's main development assistance agencies, ADAB (as it then was) and ACIAR. For ten years he was a member of the Council of one of the largest private schools in Queensland.

In a recent tribute to the retiring Director, Dr Bob Clements, present Chief of Dr Henzell's old Division of Tropical Crops and Pastures, said, 'To my mind, his major achievement was to get his group of Chiefs to recognise the need to act corporately' (see Dr John Stocker's remarks in his column on page 2).

Dr Henzell himself says his major achievement for the Organisation has been to speed up the process of 'getting our act together in agricultural research in Australia'.

Dr Henzell thinks CSIRO's standing with government 'is really much better' now than it was even in the Menzies era, and attributes this at least partly to John Stocker's 'very great ability in presentation and representation'.

More on Dr Henzell in forthcoming issues. For more right now, see page 6 story and John Stocker's column on page 2. For some interesting and useful detail of his career and thoughts see the excellent coverage in the latest issue of the newsletter of the Division of Tropical Crops and Pastures, Capricornia, issue No. 127.

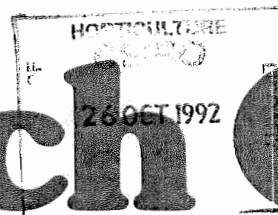
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PO Box 225, Dickson ACT 2602  
Phone: 06 276 6567. Fax: 06 276 6641

# CoResearch

No. 350

October 1992

CSIRO's staff newspaper

CSIRO  
AUSTRALIA

## Cooks and kids to blame for fatal fires?



Above, left to right, Bill Kerr, ACT Fire Commissioner and Chairman of the Australian Assembly of Fire Authorities, Michael King, CSIRO Division of Building, Construction and Engineering, and Bill Hayden, Governor-General of Australia, at the launch of the new CSIRO and Fire Authorities report on fires in Australia. Photo by John Houldsworth.

### CSIRO has released the first ever hard-data report on the causes — and results — of fires in Australia.

It gives facts and figures on all incidents involving fire-fighting authorities during the period 1989–1990 for most areas of Australia.

The report details when and where fires were started, their probable causes, how they were put out and what casualties and rescues took place. It makes interesting reading.

It turns out, for example, that most house fires are caused by stoves being left unattended while the dinner is cooking, between five and eight p.m.

The author of the report, CSIRO scientist Michael King, said that nearly a quarter of all fires occurred in buildings, with almost 60 per cent of these in houses.

'Fires often result in death and serious injuries,' he said, 'and the data show that most of the deaths caused by fires occur in houses.'

Other favourite sites for fires are bedrooms and lounge rooms, and a very large number of household fires are caused either by children playing or by adults distracted by children.

Predictable enough, perhaps, but worth remembering, is that most of the domestic fires caused by 'misuse of material ignited' involve letting a flammable material get too close to a heat source.

When it comes to fires caused by mechanical failure or malfunction in homes the

commonest cause by far is a short circuit or ground fault.

False alarms are a major drain on fire brigades, making up about 18 per cent of all calls.

An almost equal number are due to malfunctions of detectors or sprinklers.

Nevertheless Mr King said that fire detectors with a local alarm could save lives in the event of fire and that all buildings should be fitted with them.

In the period covered by the report there were 135 deaths due to fire. Of these only one occurred in a case where detectors were installed, and that detector did not have a local alarm signal.

Although most fires deaths are in homes, it appears that almost half of all fire calls in Australia relate to outdoor fires, and most of these are brush or tree fires.

The figures suggest children may be responsible for the bulk of these, as most start after school hours during the week and after lunch on weekends.

The report, 'Australian National Fire Incident Statistics 1989–1990', was launched in Canberra by the Governor-General, Bill Hayden, on October 9.

It was prepared by the CSIRO Division of Building, Construction and Engineering in collaboration with the Australian Assembly of Fire Authorities.

♦♦♦

## New CRC to break back of Australia's vertebrate pest problem

CSIRO's Division of Wildlife and Ecology is one of the research partners in a Co-operative Research Centre launched by Science Minister Ross Free in Canberra on October 13.

The Division will be working with its new partners on population control of rabbits and foxes through immuno-contraception, or birth control via the animals' own immune systems.

Rabbits cost Australia an estimated \$90 million in lost agricultural and pastoral production every year.

Foxes wreak havoc on native wildlife and newborn lambs.

Immuno-contraception induces the animal's immune system to attack the reproductive cells of its own species.

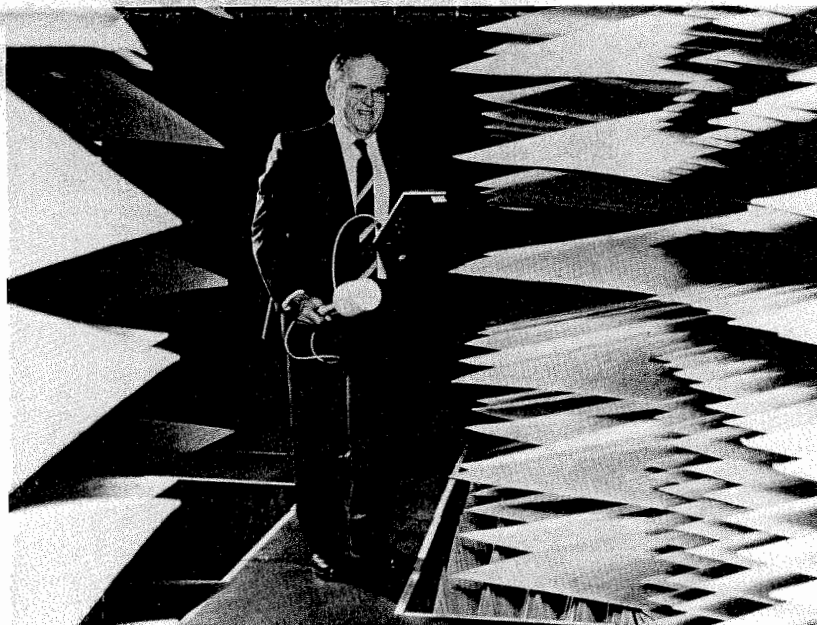
Assistant Chief of the Division of Wildlife and Ecology, and Director of the new CRC, Dr Hugh Tyndale-Biscoe, said, 'The aim is to interrupt the intimate conversation between the sperm and the egg'.

The new centre — the Co-operative Research Centre for

the Biological Control of Vertebrate Pest Populations — will concentrate the research skills of CSIRO, the Western Australian Agriculture Protection Board, The Western Australian Department of Conservation and Land Management and the Australian National University in Canberra.

The scientists will aim to suppress the breeding of rabbits and foxes without disrupting their very distinct social hierarchies, since that could bring in a whole new set of ecological complications. ♦

## Applied Physics Chief elected to international measurement body



Above, Dr Bill Blevin, AM, Chief of the CSIRO Division of Applied Physics and National Measurement Laboratory, inspects a microwave hazard meter in the microwave anechoic chamber of the CSIRO's National Measurement Laboratory in Sydney.

Dr Blevin has just been elected Vice-President of the international body governing measurement throughout the world, the Comité International des Poids et Mesures. He is the first Australian to hold this position.

Dr Blevin, who has been a member of the Comité for several years, was elected at its latest meeting in Sevres, outside Paris, on September 29. He brings to the appointment a distinguished career in scientific metrology and applied physics, specialising in optics, spanning a period of 40 years.

Dr Blevin said his election was a recognition of the significance of Australia's contribution to the scientific basis of measurement on the world scene and within our region.

'International uniformity in measurement plays a vital role in serving the needs of high-tech multinational manufacture and world trade,' Dr Blevin said.



# Getting it together



**The better this Organisation gets at making a success of multi-Divisional projects — and we are constantly getting better — the more it comes home to me just how vital those successes are to both our real and our apparent worth. Both matter, and ideally they can be a perfect match.**

For CSIRO to be relevant as a sustainable structure we must show that we can tackle the big issues facing Australia. This means bringing the best minds to bear on the toughest problems.

Ours is, and has to be, the sort of greatness that exceeds its parts. To let that show, to let the nation see how those parts come together to make something much more useful than just an impressively large heap of bits of miscellaneous research, we need to be able to co-operate across our Divisional boundaries.

We also need to be able to co-operate effectively with other great bodies — with industry, with universities.

One of the messages we ought to be able to press home by brute example is our ability to tackle important national problems — and solve them — by pulling in the different scientific strands we need, no matter where they are located in the Organisation.

One of the initiatives that Institute Directors and I have been taking in the last year has been to explore how best we can organise multi-Divisional programs and mobilise resources wherever they occur.

To that end we held an Executive Committee workshop earlier this year to tackle the question of which of our multi-Divisional programs have been glorious successes, and which have not, and why. We set to work to distil out the wisdom

we had gained from our experience.

Some programs that really stood out were in areas such as the Climate Change Program, which has been very effective and involved many Divisions; the Gene Shears projects, which have been well co-ordinated, well organised and well funded; the Land and Water Care Program, and, as a more recent example, the Active Packaging project.

Now, one of the factors common to all of those multi-Divisional projects was the presence of a skilled, committed and visible leader — a champion of the cause. In the case of the Climate Change Program it was Graeme Pearman of the Division of Atmospheric Research; in the case of Gene Shears, Plant Industry's Jim Peacock; and for the Land and Water Care Program there were two leaders — David Smiles of the Division of Soils and Geoff Pickup from Wildlife and Ecology. The Active Packaging and Coastal Zone Management projects, too, have greatly benefited from leadership from Denis Lynch and John Finnigan respectively. There were several other very effective programs from which we learned lessons.

Common factors among the least successful multi-Divisional projects are less obvious, but generally there seem to be three. These are the lack of a coherent theme, of identifiable champions, and of commitment by the Divisions involved.

For that reason, first at the Executive workshop, and then in discussion with the College of Chiefs and with Project Leaders and Program Managers across the Organisation, we came up with a set of principles which the Board approved at its August meeting. These principles will lead to a set of structures that we think defines Corporate Best Practice for setting up multi-Divisional programs. To strengthen it further, the concentration now in the priorities rounds is on rewarding bids for bigger projects, those that begin around the half-million dollar mark. This is aimed at encouraging multi-Divisional initiatives, and two that were funded in the last round were the Coastal Zone Management Program and the Mine Site Rehabilitation Program.

The Mine Site Rehabilitation Program recently launched itself with a fanfare in Goolwa, near Adelaide. I was delighted to attend it, and to experience at first hand the enthusiasm of these people that had come together from different Divisions, to back this very important project under the leadership of Tony Milnes from the Division of Soils.

Particularly gratifying was the spirit of the people who were going to be committing their resources and work to the program: they seemed so confident that this was exactly the sort of thing CSIRO ought to be doing.

I might also add that industry has got right behind it, and there promises to be a significant swag of funding coming in to CSIRO, specifically for this program, because it really is answering a national need. In the case of issues like this one

— land degradation due to mining — you need a multitude of skills. You need the skills of entomologists, taxonomists, and people who understand the indicators for the health of a piece of land; you need soil scientists and water scientists and mining scientists and people in the areas of forestry, vegetation, and plant industry. There are a huge number of different skills that need to be brought to bear, and very few organisations in the world that can supply them.

In my column for the July issue of *CoResearch* I talked about China, and about opportunities there. This one — mine-site rehabilitation — was one that cropped up in many of my interviews: I was asked 'is there a strength in Australia in this area?'. I was able to point to our new program as an example of the use of the multi-disciplinary skill base that CSIRO offers. It's shows how we can mount a very practical, focused attack on a group of problems.

When it comes to crossing not only our own internal boundaries but also those that separate us from the universities and industry, the Co-operative Research Centres offer a great opportunity.

They also offer an opportunity to express our dedication to the idea of collaborative research and to broaden even further the network of skill bases, supplying some that don't exist within our own organisation.

There is a down-side to that, of course. We do run the risk of diluting our own corporate identity and ethos. At a recent meeting the CSIRO Board looked carefully at CRCs: the question raised by one member was, 'could this be a Trojan horse within our gates?'. On balance, I think, the CSIRO Board believes that they're a very good thing, that they provide us with a very positive way of affirming our readiness to co-operate effectively with universities and with industry.

My personal belief is that the CRC is what Professor Slatyer said it was going to be, with its emphasis on co-operation, and with the parent organisations providing resources and research skills to a centre.

These issues are the theme of a meeting of CSIRO scientists involved in CRCs in Canberra on October 16.

John Stocker  
Chief Executive

## Letters to the Editor

### *Performance Planning, Evaluation and Incineration?*

Dear Editor,  
I am writing as a result of the article in the August issue of *CoResearch* which stated that all staff are invited to provide comments or suggestions regarding PPE.

Many of the avowed objectives of PPE are commendable: these include the goals of increased communication between supervisor and staff, the identification of personal development needs and the improvement of individual/group understanding of work objectives. I would go so far as to state that any competent manager/supervisor is aware of these needs and already does his/her utmost in this regard. There is however no reason why these goals require PPE, nor for that matter is there any real reason why PPE should be better at accomplishing these goals than other PPE-less alternatives.

The main justification for PPE is really in relation to the setting of individual work objectives or the assessment of performance. These two items are important, and they do require discussion and consultation between supervisor and staff. These discussions will always involve two individuals making subjective judgements and hopefully arriving at a mutually acceptable consensus. This has, after all, been going on for years in an informal fashion without any great injustices or inefficiencies, notwithstanding the often trumpeted assertions to the contrary. Under the umbrella of fairness, PPE claims to improve the process by making it 'objective'. This is done by introducing the concept of competencies. In theory, competencies are skills/attributes which are valid across disciplines. However, since no two scientists or technicians do identical things or work on identical problems, the competencies must be phrased to transcend disciplinary boundaries. Furthermore, no two people are identical or possess identical views, and these aspects of human individuality are completely ignored by PPE.

*continued on page 6*

# Proteins and bread — recipe for success in America

The American Association of Cereal Chemists has awarded its Osborne Medal to Dr Colin Wrigley, Officer-in-Charge of the CSIRO Grain Quality Research Laboratory at North Ryde in Sydney. Dr Wrigley is the first Australian to win the medal, which is awarded infrequently and nearly always to a North American.

The medal was given in recognition of Dr Wrigley's research contributions to understanding of the chemical basis of wheat quality. This increased understanding of the chemistry of wheat quality has led to better methods of testing the product, and of improving it.

The award is also indirectly a recognition of the many Australian collaborators who have been involved in these achievements, especially the staff of the CSIRO Grain Quality Research Laboratory (formerly the Wheat Research Unit).

Dr Wrigley will present the Osborne Medal Address at the 77th Annual Meeting of the Association of Cereal Chemists in Minneapolis next September under the title: 'A molecular picture of wheat quality: finding and fitting the jigsaw pieces'.

The medal was established in 1926 to recognise distinguished contributions in the field of cereal chemistry. It was named after the outstanding protein chemist Thomas Burr Osborne, who received the first award in 1928. The award includes a plaque and an honorarium of \$US 2,000.

Photo by Geoff Lane.



## Some subsequent changes to prior engagements ...

*Some changes have been made to CSIRO's priorities funding process as a result of an internal survey of the attitudes of senior scientific staff. Here's a bit of background, a brief account of the survey results, and some recent developments.*

### The new priorities

In February 1991 CSIRO's Executive Committee released the results of its new research priority-setting exercise, set in motion a year earlier by the CSIRO Board.

The results gained quite some attention at the time, both internally and externally, and are now pretty well known. Those two frequent combatants, minerals and the environment, scored equal first, and social development trailed the field, sole occupant of the very lowest grid square on the CSIRO graph that mapped 'attractiveness' and 'feasibility'. Other research areas are scattered in between.

It's a clear and useful graph. It immediately got pinned, and remains pinned, onto a lot of important walls, inside and outside the Organisation.

So, the decision was made, and money was re-allocated accordingly. It was the first round of a process that occurs each year, with Institutes and Divisions submitting competitive proposals for research they would like to have funded and the Executive Committee choosing among them by reference to the Organisation's declared priorities.

### The opinion survey

CSIRO planners thought that staff should be encouraged to voice an opinion about the process, and the Organisation's Consultative Council agreed.

In October 1991 the Council circulated a questionnaire on the new process, prepared by the independent body Michael Gill

and Associates, to all Program and Project leaders.

Of the 1,160 survey questionnaires they sent out, 704 were filled in and returned (61%). (Five respondents would not disclose their gender, status or Institute.)

### The opinions —

#### On the priorities exercise

The majority of respondents had mixed feelings about the priorities exercise, but perceptions were, on the whole, positive from those in the Institutes that benefited most and negative from those in the Institutes that lost in the process.

Program leaders (higher status) were also consistently more positive in their responses than were Project leaders.

Most respondents (76%) said that CSIRO priorities should be set by a combination of Divisions, Institutes, the Executive Committee and external bodies.

There was no significant difference between females and males, Program and Project leaders, or the different Institutes, on this point.

However, two Institutes (Information Science and Engineering and Natural Resources and Environment) were significantly more positive about the exercise than the rest, at 59% and 54% respectively, and one Institute (Plant Production and Processing) was significantly less positive than the rest at 26%.

All the respondents were asked what impact the priorities exercise had had on their workload. Both groups said their

own workload had increased more than had the workload of the people in the groups they led.

#### On the methodology and process

Most (51%) of the respondents rated the methodology developed by the Executive Committee for setting priorities as either neutral or good. A significant 23% said that it was 'poor' or 'very poor'. The Institute in which negative ratings concentrated was Plant Production and Processing (33%).

In general, there was no significant difference in the responses of females and males, although Program leaders (all male) tended to be more positively disposed than were Project leaders (470 male, 34 female).

On the matter of applications for internal funding, 76% wanted 'outline applications', with only 16% opting for 'detailed project applications'.

#### On communication

Almost eight in ten respondents said that communication about the methodology and process was 'fair' or 'poor', rather than 'good'.

More than seven in ten said that in general corporate publications about the methodology and role statements were 'fair' or 'poor'.

Almost nine in ten said that information about resource re-allocations for 1991-92 was 'fair' or 'poor'.

Respondents reported that the main sources of information about the priorities exercise were *CoResearch* (33%) and

Chiefs of Division (31%). (This confirms the results of a rough 'snapshot' phone survey conducted by CSIRO's Public Affairs unit in May 1991, shortly after the results of the exercise were released.)

Program leaders as a source of information accounted for only 18%.

### CSIRO's own analysis of the results

A report prepared by the Research Priorities Working Party (of the CSIRO Consultative Council) was released on August 10 this year.

The members of the working party were Mr John Stevens, Dr Mike Rickard, Dr Ted Cain, Dr Andrew Pik and Mr Malcolm Robertson.

The report covered many of the points mentioned above, and drew attention to the fact that respondents to the survey claimed an increase in personal workload from the process.

'In general,' it said, 'respondents suggested that the costs involved in preparation of proposals, travel, staff resources and proposed project work, in addition to the 1.5% levy, could mean that Divisions would be 'worse off'. The time required of program and project leaders did not justify the expected benefits.'

They also drew attention to the view of respondents that the priorities process was too 'top-down' and subjective.

'Concerns were expressed,' they said, 'that the Executive Committee was not 'balanced' or 'representative'. There was also a view that decisions were based on 'perceptions ... outside their fields of expertise' without 'consultation'. ('Arbitrary decisions' and 'horse trading'

were quoted repeatedly.)'

Members of the Working Party also remarked that scientists were concerned about the 'potential detrimental impact on staff, the future of strategic research and existing projects' of the priorities exercise.

'The majority of respondents,' they said, 'regarded the priorities exercise with ambivalence.'

### The changes

The comments made by CSIRO staff in the survey have led to some changes in the priorities process.

Because of the low success rate of applications, 76% of respondents had clearly indicated a preference for brief, outline-only applications for funding rather than detailed returns running to many pages and costing them days of work time to prepare.

Institute planning managers discussed the problems during January this year and proposed a number of changes to be put in place for the 1993-94 round.

The Chief Executive accepted their suggestions, and a new, two-stage process has been introduced. In the first stage, 35 very broad proposals were considered in July by the Executive Committee. 'Brokers' were appointed to champion and document 18 proposals for further consideration, in the second stage, by the Executive Committee at its October meeting.

At the time of going to press these 'brokered' proposals were about to be considered, and the successful bidders should have heard by the time they read this.

*For a copy of the full report contact Merrie Hepworth on 06-276-6239. +*

# A Matter of Opinion

The last issue of CoResearch carried a report of the recent decision to dissolve the CSIRO Magazines group, abolish the positions of the people presently employed in it, and start a whole new operation, with fewer staff at lower pay, in Melbourne. There followed speculation, in the press and within CSIRO, as to whether this cost-cutting exercise might inevitably damage the quality of the magazines — *Ecos*, *Rural Research* and the insert in *Business Review Weekly*, *CSIRO Business*. The new arrangement would make greater use of paid outside contributions, and Divisions would be expected to supply material. Jinette de Gooijer, General Manager of CSIRO's Information Services Branch, who initiated the change, and Robert Lehane, Manager of the CSIRO Magazines Group, argue the toss in the following series of letters to the Editor. Comment is of course invited from readers outside the dispute, whether on the decision itself or its bearing on the changing directions of the Organisation.

Dear Editor,

Those who value *Ecos*, *Rural Research* and *CSIRO Business* will be pleased to have ISB General Manager Jinette de Gooijer's assurance (August CoResearch) that the replacement of the Magazines group with a smaller team in Melbourne 'seeks only to do it cheaper without compromising existing standards'. They could be excused, however, for feeling a little sceptical.

The planned changes are drastic; the centrepiece is replacement of four writers and an editor for *Ecos* and *Rural Research* with two 'managing editors', who will have just \$40,000 between them (increased from \$20,000 in the original proposal) to spend on contract writing.

No serious examination of what is required to produce the magazines was undertaken before the proposal was put forward. And the conclusion of the PCEK Corporate Centre Review (hardly a kid-glove exercise) that existing staff and resource levels are appropriate was forgotten.

Also notably absent has been substantial consultation with Magazines group staff. Management made no attempt to discuss with staff the points made in their detailed response to the proposal.

What we have, in effect, is a successful CSIRO operation (rising sales, very positive external reviews and continuing positive feedback) being condemned without trial and replaced by a hastily conceived

structure that will almost certainly prove inadequate to the task.

R. Lehane

Dear Editor, CSIRO currently spends over \$700,000 a year on producing two quarterly magazines and a four-page insert into BRW ten times a year. To this must be added another \$150,000 of printing, mailing and marketing costs picked up by *Farm Journal*, which carries *Rural Research* as an insert.

It begs the questions: is CSIRO getting the best value for its communication dollar? and, can CSIRO obtain the same or more benefit but at less cost?

These were questions asked by me in assessing the service delivered by ISB's Magazines group.

Commercial magazines, such as *Australian Natural History* and *Geo*, are produced at much less cost per page than CSIRO's *Ecos* and *Rural Research*. This is particularly evident when comparing the staff editing and writing costs. Whereas it costs CSIRO \$1,500 per page in salaries, *Australian Natural History* and *Geo* enjoy a cost of only \$500 and \$450 respectively. Both these commercial magazines concentrate their expenditure on distribution and marketing to a far greater extent than CSIRO does, with the consequence of having circulation rates of 22,000 (*ANH*) and 65,000 (*Geo*).

Clearly, CSIRO could achieve more value for its \$.

Jinette de Gooijer

Dear Editor,

Budgeted net costs for 1992-93, before the upheaval, were: *Ecos* \$236,000, *Rural Research* \$226,000 and *CSIRO Business* \$230,000. For *CSIRO Business*, the biggest component by far is *BRW*'s charge for carrying the insert. *Farm Journal* does not charge CSIRO for carrying *Rural Research* — a very favourable arrangement for CSIRO.

Whereas staff costs per page are lower for *ANH* and *Geo* than for *Ecos* and *Rural Research*, operating costs are higher, reflecting the fact that they use paid contributors rather than staff writers. Total cost per page, using the figures in Jinette's proposal, is about the same for *Rural Research*, *ANH* and *Geo*. The figure for *Ecos* is about 50 per cent higher, which is hardly surprising as *Geo* contains fewer than half as many words per page as *Ecos* and *ANH* obtains most of its articles at below market rates from museum staff.

Perhaps more to the point is the fact that *Ecos* and *Rural Research* are very different publications from *ANH* and *Geo*, with very different roles. The axe has been wielded without any serious examination of the specific cost/benefit questions that should first have been addressed — relating to the way the magazines are produced (for example, staff versus freelance writers) and the job they do for CSIRO.

R. Lehane

♦♦♦

## 60 years in meat

CSIRO's new National Priorities Exercise has had a good deal of publicity, outside as well as inside the Organisation. But, of course, CSIRO has always had its priorities, and some of them have stood firmer than others under the droughts and flooding rains of funding fashions.

Food has always been pretty basic, and so has the appeal of the money to be had by the sale of it: when CSIRO, then CSIR, started up in 1926, one of its top priorities was to find ways to keep food fresh for longer. If we could make it last long enough for sending overseas — and have it land still luscious — we could boost our export trade enormously.

It was a good idea, though it took some time for the Division of Food Processing to be set up, and it was not until 1932 that the first project was begun — work on the storage of chilled meat for export.

At that time, Australia's meat exports totalled \$11 million, mostly in tinned and frozen beef. A market in chilled meat — which commands a premium price — had been attempted, but the slimes and moulds that formed during transport made the trade unreliable.

Today, Australia's meat exports are worth \$2.5 billion annually, with chilled meat making up almost 40 per cent of this. We are the world's biggest exporter of beef.

### 60 years in meat research

One of the hold-ups in getting the Division of Food Processing going was the search for a suitable site. But finally the Queensland Meat Board offered facilities, including access to chillers, cold rooms and meat, and the CSIRO research centre on Floor 7 of the Brisbane abattoir was officially opened on July 26, 1932.



Mr John Macfarlane, left, the longest serving member of the Division of Food Processing at the Meat Research Laboratory, and Dr Fred Grau, the longest serving member of the Meat Lab itself, join forces to cut the Lab's 60th birthday cake.

## CSIRO's Meat Lab — some forward to the future, and some passed to the back?

An external review committee appointed to advise the Director of the CSIRO Institute of Animal Production and Processing on 'Future Directions for the the CSIRO Division of Food Processing and Related Research Areas in CSIRO' has recommended that the Meat Research Laboratory at Cannon Hill in Brisbane be fully privatised. This proposal goes well beyond the current part-privatisation proposal of the Meat Research Corporation, about which staff have known since September 1991. Division of Food Processing staff were told of the committee's recommendations on September 14, 1992. The committee proposes that those CSIRO officers who do not have a role in the proposed private meat research institute be encouraged to join colleagues at the Division's Sydney or Melbourne sites, or to transfer to other CSIRO Divisions. The committee's report also recommends that the Division's Sydney and Melbourne laboratories not be moved. The report and the Director's response to it are soon to be sent to the Chief Executive of CSIRO, Dr John Stocker, for his consideration.



# SIROCREDIT UPDATE

A Guide to the benefits of the CSIRO CO-OPERATIVE CREDIT SOCIETY LTD. Incorporated in Victoria A.R.B.N. 010 542 159

October 1992

## Looking for a Personal Loan?

### Here's how

Forward an Application and all the documentation requested such as payslips etc to any SIROCREDIT office (even by fax) and an answer will be provided within **24 hours**. Applications can be obtained from Display Boards or direct from SIROCREDIT (addresses below).

### Here's why

**No Application Fees**  
**No Establishment Fee**  
**No Waiting Period**  
**Automatic Death Cover**  
**Current Rate 13.25 % p.a.**  
(expressed as an annual percentage)  
**Lower rates with Mortgage security (12.25%)**

### The fine print

- All rates variable through out term.
- Repayment Chart overleaf.
- Unsecured Loans up to \$15000.00 for approved applicants.
- Cost of establishing security (if required) borne by member
- Death Cover on loans refers only to personal loans up to \$80,000.00



Display Boards onsite carry up to date information on Loans and other SIROCREDIT services

## Australia Wide Service



SIROCREDIT provides service to CSIRO staff around Australia and in the age of electronic banking is as convenient as being right next door. Apart from the remote access facilities SIROCREDIT accepts most transactions by phone or facsimile and provides a Reply Paid service to ensure prompt attention.



Directors of SIROCREDIT are drawn from around Australia with current representation from

### Queensland

**Gary Garland**  
CSIRO Indooroopilly

### West Australia

**Tom Biegler**  
CSIRO Floreat Park

### ACT

**Howard Crozier - Chairman**  
Ex CSIRO  
**Arthur Blewitt - Associate Director**  
CSIRO Corporate Centre

### NSW

**John Baistow**  
CSIRO North Ryde

### Victoria

**Noel Whelan**  
CSIRO Clayton  
**Bernie Hawkins**  
CSIRO Highett  
**Helen Kenna**  
CSIRO Highett  
**Jack Pattison - Associate Director**  
Ex CSIRO

## Electronic Transfer to any bank account in Australia - or the world!

Credit any bank account throughout Australia overnight directly from your SIROCREDIT account AT NO COST plus funds transfer around the world can be arranged at a cost of \$15.00. It is as simple as sending/faxing through a withdrawal or periodical payment request

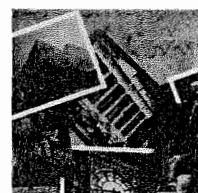
## Foreign Currency Services



### Travellers Cheques

Are available on a NO COMMISSION basis and can be supplied to sites throughout Australia simply by sending a fax (the purchase value is debited to members accounts). American Express, Thomas Cook and VISA Travellers cheques are available in all major currencies.

### Notes



Foreign Currency notes can also be arranged for members for collection either at a SIROCREDIT office or the airport of departure.

### Bank Drafts

SIROCREDIT produces International Bank Drafts in over 40 currencies either on a one-off or regular basis WITH NO CHARGE to members.

## INSIDE :- RATES

### Loans

Insert Page 2

### Repayment Tables

Insert Page 2

### Savings & Investment

Insert Page 3

### PLANNING FOR RETIREMENT

Insert Page 4

### SECURITY

Insert Page 4

### INFORMATION

Insert Page 4

### CURRENT STATISTICS

#### At a Glance

Number Members 12717

Total Assets \$93.08m

Total Loans \$67.08m

Percentage of CSIRO staff who direct their pay to SIROCREDIT - 31% (2650)

### Did you know?

SIROCREDIT has a network of "voluntary representatives" at CSIRO sites throughout the country who act as a contact point for information, forms or collection of travellers cheques etc. If you are unsure who is the representative for your site contact SIROCREDIT.

## The Advantage of Membership

SIROCREDIT was formed in 1957 for CSIRO staff. Today the Credit Union has evolved into a full service financial institution able to provide a variety of benefits to those staff and individuals (and their families) involved in scientific research and technological change Australia wide. The Credit Union provides the means for its members to meet their financial objectives.

As a financial co-operative SIROCREDIT is owned by its members. The Board of Directors is elected by the entire membership and is comprised of volunteers who strive to achieve the same goal: to provide a safe, convenient and profitable place for members to conduct all their finances.

This unique concept of "ownership" is what enables SIROCREDIT to provide highly competitive interest rates on savings and loans. Members also find familiar "bank" services on the SIROCREDIT menu

As well, benefits beyond normal banking are an integral part of SIROCREDIT membership. As a combined force SIROCREDIT members can utilise such benefits as Legal Referral, Tax Advice, Discounted Stockbroking and a Financial Planning Service. These are just some of the "extras" provided by the Credit Union and there are many more.

Membership of SIROCREDIT is open to all CSIRO staff and family. Once joined, membership is "for life" and is not dependant on continued employment with CSIRO

## SIROCREDIT Offices



**MELBOURNE OFFICE**  
89 Hoddle St RICHMOND  
PO Box 9 EAST MELBOURNE  
VICTORIA 3002  
Telephone (03) 483 1500  
Telephone (008) 338698  
Facsimile (03) 483 1555



**SYDNEY OFFICE**  
CSIRO North Ryde Laboratories  
Gate 4, 105 Delhi Road  
P.O. Box 387 NORTH RYDE  
NSW 2113  
Telephone (02) 887 8248  
Facsimile (02) 887 8249



**CANBERRA OFFICE**  
CSIRO Black Mountain  
Clunies Ross Drive  
P.O. Box 710 CANBERRA  
ACT 2601  
Telephone (06) 246 5400  
Facsimile (06) 246 5404



SIROCREDIT

# SAVINGS

Why bank, when you can Credit Union?



SIROCREDIT has the following types of deposit accounts available for members with a range of features and benefits :-

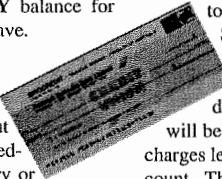
- Ultimate at-call
- Cash management
- Fixed term investment
- Christmas or Goal
- Childrens Savings

Savings can be maintained in either single or joint names and in most cases company or non-individual accounts (eg Social Clubs) can be catered for.

## Ultimate Account

SIROCREDIT Ultimate Account combines all the features you need to conduct your day to day finances. More than this the account earns you a top rate of interest on the **DAILY** balance for every dollar you save.

Your account may be credited any way you choose, but obviously direct crediting of your salary or superannuation, plus such payments as Family Allowances, enhances the convenience factor.



## Cheque & Deposit Books

When you apply for a cheque book from SIROCREDIT you will be asked to verify the name which you require on the book (which must only be the one normally used by the account-holders) as well as issue instructions on how cheques are to be signed. A signature card separate to the membership application will be provided and this is retained by the clearing house who vets the cheques to verify the correct authority is in place. Your first cheque book will be supplied with a cheque book wallet which also has room for a personalized deposit book should you request one.

## A few Do's and Don'ts with your cheque book

Always make sure that you have sufficient funds before you write a cheque - a dishonor fee is levied for each unpaid cheque by the National Australia Bank and this is passed on to members.

Complete your cheques fully and without large gaps and never sign your cheques until ALL details have been completed.

Keep a record of the cheque amount in your cheque butt and be sure to reconcile the amounts with your monthly statement.

Copies of cheques can be obtained by SIROCREDIT however the usual delay is 7 working days.

SIROCREDIT has a commercial arrangement with the National Australia Bank who provides a clearing facility for members personal cheques and deposits. The National Australia Bank does not have access to your SIROCREDIT account and cannot review the credit unions records. Cheques written and deposits made via the National Australia Bank are electronically sent to the credit union and recorded against your account.

In the case of deposits made over the counter at any branch of the National Australia Bank (using your personalised Deposit Book) one additional day is required to have them credited to SIROCREDIT. If a cheque deposited into your account is dishonored then the credit will be reversed and any bank charges levied passed to your account. The responsibility to collect payment will remain with the depositor of the cheque.

## Stopping Payment on a Cheque

You can stop payment on a cheque before it has been debited to your account without a penalty however you must agree to indemnify SIROCREDIT against any claim that the other party may lodge. To stop a cheque you should first ring the local SIROCREDIT office to ascertain if the cheque has been presented and if not you can provide the detail of the cheque number, amount, payee and reason for the stop. You must also put the request in writing on the authority which will be supplied to you by the office which you contact.

## Automatic Re-ordering of Chequebooks

SIROCREDIT automatically keeps track of just what cheque has been presented to your account and how many you have left. After the 10th cheque in a book of 25 is presented to your account a new book will be ordered for you and sent out automatically. The re-order process takes about two weeks which is usually well and truly before members have run out of cheques. If a member is concerned that the automatic system may not be quick enough for their needs they can ensure that the books are re-ordered early by either re-

questing a manual order from SIROCREDIT or simply writing the 10th or subsequent cheque first!

## Direct Debiting/Crediting

SIROCREDIT facilitates now permit a whole range of Direct Entry items to your account ranging from automatic crediting of payrolls from employers to electronic debiting of accounts from major companies including American Express, AMP, Medibank Private, HBA etc.

## Card Access to your Ultimate account

SIROCREDIT offers debit card to access your savings (ie draw from existing funds or established credit facilities only). This is contrary to the way many institutions issue their cards however it provides members with unparalleled access to their accounts throughout Australia and the world. It is also important to remember that card access only permits withdrawal of funds and does not permit members to credit their accounts.



Your application for a card is made on either the new Membership Application at the time of joining or the Account Maintenance Form for existing members when you select the name you prefer on the card and if you wish to authorise any other cards to operate on the account (eg spouse etc). The cards delivery can be expected within two weeks of approval. A Personal Identification Number (P.I.N) which enables access to the electronic funds transfer networks of Automatic Teller Machines will be mailed separately. A members P.I.N is like an electronic signature and must be treated with great care.

Along with the card members receive a copy of the Conditions of Use brochure that sets out the rights and responsibilities of each party when using the card and P.I.N combination plus includes a copy of the EFT Code Of Conduct to which SIROCREDIT and all financial institutions comply. The EFT Code Of Conduct aims to ensure that members with any concerns with electronic transactions receive fair and honest treatment in a clear and definable manner.

All SIROCREDIT cards are issued with two year expiry dates and are renewed automatically on

satisfactory account usage. Renewal cards are forwarded by mail to the address held on SIROCREDIT records.

## Lost Cards

It is important that as soon as members become aware that they have lost, suspect loss or fraudulent use of their cards that they contact SIROCREDIT during business hours or 008 224 004 at other times. Internationally Local VISA office or VISA issuing financial institution

Once your card has been reported as lost/stolen it cannot be used even if you discover

the card. **This does not apply to other cards issued on the same account as these are issued**

**with separate numbers and are not affected by individual card loss.** If a card is re-discovered then SIROCREDIT should be advised and the card cut into pieces and returned.

For any disputed transactions SIROCREDIT will resolve them within 21 days of receiving the relevant details and advise you of the outcome in writing or if more

time is required.

## VISA Card

Can be used to access your account through purchases at over 10.2 million merchants worldwide as well as draw cash from your account at any VISA issuing financial institution WORLDWIDE. Most importantly SIROCREDIT VISA provides electronic access to up to \$500 a day at the touch of a button through

NAB Flexiteller network

**Flexi Teller**

ANZ Night and Day network

**ANZ Night & Day Bank**

Building Society CashCard



State Bank of Victoria and NSW networks

Credit Union's Rediteller network

and over 105,000 automatic tellers around the world displaying the VISA decal.

## At Call "The Ultimate SI"

Interest Calculated on **DAILY** Balance  
Credited 31st March, 30th September

SI	Up to \$4999	2.50%
	\$5000 to \$19999	3.50%
	\$20000 and over	4.50%
	<b>OVERDRAFT*</b>	13.75%

\*Interest calculated daily  
(annual percentage rate)

## Fixed Term Investments

Interest rate guaranteed - Minimum deposit \$1000

IS	3 MONTHS	6.00%
	6 MONTHS	6.25%
	12 MONTHS	6.50%
	24 MONTHS	6.75%
I4	Cheque a Month (min \$5000)	6.25%

(annual percentage rate)

Deposit rates can change without notice

## Daily Interest Account

Interest calculated daily  
Reviewed weekly

S7	7 DAYS then 24 hour call	
	\$500-\$4999	4.75%
	\$5000-\$19999	5.00%
	\$20000 and over	5.25%

S5 Christmas Club  
(annual percentage rate)

Deposit rates can change without notice

# General

Why bank, when you can Credit Union?



## Financial Planning and Advice

Most of us need help in planning our financial security. With the variety of investment opportunities and the ever-changing tax laws, it is all the more important that a sound financial plan be adopted to achieve our present and future needs.

At SIROCREDIT, we want to help and that's why we introduced the financial planning service. As a Credit Union dedicated to serving the needs of our members, who better to turn to when advice on one of the most important matters in our lives is required?



Extensive research into the advisory services available today have led to only one conclusion - a co-operative financial institution like SIROCREDIT CAN DO IT BETTER.

### What is SIROCREDIT Financial Planning?

Financial planning and advice from a trained and qualified member of the Credit Union's staff, provided FREE of charge to members. This advice includes a comprehensive written report at no charge as well as on-going Portfolio Management and monitoring if required. Regular Investment Newsletters and seminars are also conducted Australia-wide to keep members informed.

### How does it work?

The aim of our service is to design an individualised investment plan that meets your needs now and in the future. To achieve this goal we commence with a confidential discussion with you about your financial needs, concerns and goals.

Then we enlist the aid of technology. A computer programme developed specifically to help us evaluate your financial position. After evaluating the data, we recommend your best course of action.

### What type of investments will be recommended?

That will depend on your individual assessment, but we will be able to advise you on all types of investments, such as Property, Mortgage and Equity Trusts, Shares, Rollover Funds, Insurance Bonds, Annuities, Personal Business and Investment Finances, etc.

SIROCREDIT Financial Planning has been instigated to provide a co-operative approach to investments and will avoid areas of high risk and uncertainty and be biased towards investments of a stable and secure nature, unless we are otherwise directed by you.

SIROCREDIT Financial Planning will provide you with FULL disclosure of any entry and brokerage fees charged by the respective fund managers.

### Who is able to use SIROCREDIT services?

Appointments and seminars are held at SIROCREDIT premises, as well as at the various CSIRO sites around Australia year round. Also, any member is welcome to utilise the Investment Hotline to discuss financial matters or arrange a personal consultation.

### What about Superannuation?

Yes, SIROCREDIT is adequately briefed to provide recommendation on Superannuation. This is particularly important as mobility between employers is increasing the need for a portable Superannuation Scheme tailored to meet individual needs.

### How do I arrange for a consultation or obtain more information?

Ring or write to the Manager Financial Services  
SIROCREDIT  
PO Box 9  
East Melbourne Vic 3002  
Telephone: (03) 483 1500  
(008) 338 698  
Facsimile: (03) 483 1555  
(or contact SIROCREDIT's Sydney or Canberra offices as listed on insert page one)

## Security

SIROCREDIT is a secure institution that you can be assured is a safe place for you to conduct your banking. Credit Unions exist around Australia (1 in 5 Australians is a credit union member) and SIROCREDIT is consistently rated as one of the industries best performers by such studies as the annual KPMG Peat Marwick Financial Institutions Survey. However the strength of SIROCREDIT is not only the stability which members provide it is subject to strict regulation by all governments around Australia on just how the credit union must run to guarantee members deposits at all times.

### Regulation

Institutions such as credit unions are controlled under the auspices of the Australian Financial Institutions Commission (AFIC) which is a government appointed body to co-ordinate and supervise the Non-Bank Financial industry throughout Australia. AFIC, in conjunction with the state based supervisory authorities set the standards by which

SIROCREDIT can operate and ensure that these are adhered to by regular inspection and reporting. All areas of SIROCREDIT are subject to prudential standards which in many cases exceed the demands placed on Australian banks. In addition all credit unions are required to pool a certain amount of their resources to ensure that there are sufficient funds to guarantee no loss of deposits to any credit union member.

SIROCREDIT is proud of its secure standing within the Australian financial community which is provided by the members of the credit union and a conservative corporate philosophy. If you would like to know more, then SIROCREDIT would be pleased to provide any information regarding the internal operations or external auditing or controls in place to protect your money.



## Interest Rates

Interest rates are set by SIROCREDIT to provide the best possible savings and loans combination to members. Rates are reviewed constantly and trends and market movements monitored to ensure that the credit union remains in step with all the latest changes. Wherever possible rates are kept constant from the 1st of each month to the last day of that month however this is subject to change.

It is important for members to realise that the major source of the credit union's income is derived from the difference in interest rates offered on deposits to members and the interest paid by members who have loans.

Loans are granted on the basis of risk of lending and prevailing market rates from a pool of funds which have been deposited with the credit union. These deposits range from at call savings to those lodged for longer terms with guaranteed rates of return. Reductions in market deposit rates are not immediately reflected in loan

rates as the overall cost of longer term investments is not instant but rather flows through over time as existing investments mature and rollover with a lower interest rate cost.

Changes in rates are advised to members as soon as possible and in the case of loans no change is



made until at least two weeks after notice has been given. Rates are published on monthly Interest Rate sheets, printed on the reverse of statements and on maturing Fixed Term Investment advices. In addition members are welcome to contact SIROCREDIT to obtain the current rates on either deposits or loans.

### How the Government Charges apply around Australia

Financial Institutions Duty (FID) - current as at November 1992							
NSW	VIC	QLD	WA	SA	TAS	NT	ACT
0.06%	0.06%	N/A	0.06%	0.1%	0.06%	0.05%	0.1%
Levied on all deposits to accounts at the percentage shown in each State or Territory							
Debits Tax on Cheque Withdrawals (BADT) - current as at November 1992							
Cheque Amount				Government Tax (not applicable to ACT residents)			
\$1-99.99				\$0.15			
\$100-\$499.99				\$0.35			
\$500-\$4999.99				\$0.75			
\$5000-\$9999.99				\$1.50			
\$10000 and over				\$2.00			

## information

Return to Reply Paid 3  
PO Box 9 EAST MELBOURNE  
VICTORIA 3002 (or any SIROCREDIT office)

PLEASE TICK APPROPRIATE	NAME
CHEQUE & ACCESS CARD	
DAILY INTEREST SAVINGS	ADDRESS
CHRISTMAS & GOAL PLANS	
LOANS	
INSURANCE	STATE POST
FOREIGN CURRENCY	TELEPHONE
LEGAL ADVICE	
STOCKBROKING	PLEASE RETURN TO
FINANCIAL PLANNING	SIROCREDIT





# LOANS

*Why bank, when you can Credit Union?*



All of us at some time need access to a loan. At SIROCREDIT, we believe that taking a loan FOR ANY WORTHWHILE PURPOSE should be as easy and hassle free as possible. Our promise is to provide members with loans on the best possible terms available and assess each application on its own merits in a dignified manner.

The credit union has a wide range of financing options which can cater from the smallest requirements to the purchase of a home or investment opportunities. All loans and overdrafts are subject to strict approval criteria.

We look forward to assisting you in a prompt and friendly manner and invite you to contact any of our staff for further advice.

All applications must be made on the appropriate Loan Application form which can be submitted to any SIROCREDIT office (by facsimile if required although the original must be received prior to funding). The credit union undertakes to respond to your request within 24 hours of receipt of the application

## INTEREST RATES & REPAYMENTS

All interest rates on loans are charged on the daily balance owing therefore taking advantage of any repayments made by members. Additional payments will reduce the term of the loan and all members are welcome to make extra regular or one-off payments at any time without penalty. The current interest rates on loans are notified to members on their statements and also recorded on the members accounts. Any loan rate increases will be advised to members a minimum of two weeks in advance.

It is not SIROCREDIT's usual policy to require an increase in repayment if interest rates rise however certain cases where the term of the loan would be dramatically increased may be subject to individual review. Similarly SIROCREDIT recommends that members retain their level of repayments in the event of a rate decline to ensure that the debt is

finalized as quickly as possible. Members who wish to reduce their payments may do so by submitting a fresh loan application to renegotiate the existing terms.

Wherever possible repayments are collected directly from members salary however direct deposit and cheque deposit facilities are available on request.

## SECURITY

Depending on the amount of the loan requested SIROCREDIT may require you to offer part of your assets as security for the debt. A common example of this is a home loan where your house is generally the security for your loan. The security required for a loan will be clearly explained on the Loan Contract which you should read carefully prior to signing.

For some personal loans the money that you earn and your career prospects are acceptable as evidence of your credit worthiness. This is especially so if you have been a member of the credit union for a number of years.

## FEES & CHARGES

There is no fee for applying for a loan from SIROCREDIT. The only costs incurred by members relate to the preparation and retention of the security to be held for the loan (such as a mortgage). These will only be charged after the loan has been approved, contracts signed and members advised of the appropriate costs. Members are welcome to contact any of the credit unions offices to obtain an estimate of the costs for each loan.

## CREDIT REPORTS

With every application SIROCREDIT performs a check on the members credit worthiness by using one of the various credit bureaus such as the Credit Reference Association of Australia (CRAA). A signed authority for the credit union will be requested from you prior to any check being made.

## PERSONAL LOANS

For a car, boat, travel, home improvements, or furnishings, or any other worthwhile purpose, we can help. If it makes your lifestyle better, a Personal Loan can make it happen. A discounted interest rate will apply to those members who provide a registered property mortgage for SIROCREDIT personal loans.

### Fortnightly Repayment Chart

		Term in Years (Interest represents total interest payable)									
		1 Interest	2 Interest	3 Interest	4 Interest	5 Interest					
<b>Personal Unsecured Loans</b>	1000	41	73								
	2000	83	146	44	288						
	3000	124	220	66	431	47	652				
	4000	165	293	88	575	62	869	50			
	5000	206	366	110	719	78	1087	62	1468		
	6000	248	439	132	863	94	1304	75	1762	63	2237
	7000	289	513	154	1007	109	1521	87	2056	74	2610
	8000	330	586	176	1151	125	1739	100	2349	84	2983
	9000	371	659	198	1294	140	1956	112	2643	95	3356
	10000	413	732	220	1438	156	2173	124	2937	106	3729
<b>13.25% expressed as annual percentage</b>	11000	454	805	242	1582	172	2391	137	3231	116	4102
	12000	495	879	264	1726	187	2608	149	3524	127	4475
	13000	537	952	286	1870	203	2825	162	3818	137	4847
	14000	578	1025	308	2014	218	3043	174	4112	148	5220
	15000	619	1098	330	2157	234	3260	187	4405	158	5593



		Term in Years									
		7	8	9	10	11	12	13	14	15	
<b>Personal Secured Loans</b>	21000	172	159	149	140	134					
	22500	185	170	159	150	144	138	133			
	25000	205	189	177	167	160	153	148	144		
	27500	226	208	195	184	175	169	163	158	154	
	30000	246	227	212	201	191	184	178	173	168	
	32500	267	246	230	217	207	199	193	187	182	
	35000	287	265	248	234	223	215	207	201	196	
	37500	308	284	265	251	239	230	222	216	211	
	40000	328	303	283	268	255	245	237	230	225	
	42500	349	322	301	284	271	261	252	245	239	
<b>12.25% expressed as annual percentage</b>	45000	369	340	318	301	287	276	267	259	253	
	47500	390	359	336	318	303	291	282	273	267	
	50000	410	378	354	334	319	307	296	288		



## HOME LOANS

To assist in the purchase of an owner occupied home or home unit; or with the construction of a home. A registered first mortgage over the property. Up to a normal maximum of \$150,000 Maximum term 20 years.

### Fortnightly Repayment Chart

		Term in Years						
		10	11	12	13	14	15	20
<b>Home Loans</b>	50000	308	292	279	268	259	252	227
	60000	370	351	335	322	311	302	272
	70000	431	409	391	376	363	352	317
	80000	493	468	447	429	415	402	362
	90000	555	526	502	483	467	453	408
	100000	616	584	558	537	518	503	453
	110000	678	643	614	590	570	553	498
	120000	740	701	670	644	622	604	544
	130000	801	760	726	698	674	654	589
	140000	863	818	782	751	726	704	634
<b>10.25% expressed as annual percentage</b>	150000	925	877	837	805	778	755	680



## INVESTMENT LOANS

To assist with the purchase of income producing assets, such as rental properties, share/equity investments, commercial businesses. A mortgage over real property purchased is the most common security. Interest Only options are also available.

## BRIDGING LOANS

To assist with short term finance required in the period prior to the sale of assets, such as house purchases prior to sale of existing residence.

## OVERDRAFT

To provide a "safety net" in cases where you need immediate access to a line of credit when emergencies crop up, or that purchase that "can't be passed up" comes by. Up to \$10,000. (Higher limits of up to \$100,000 are available on Mortgage security)

### Loan Rates as at October 1st 1992

Interest charged monthly and calculated daily in retard  
(annual percentage rate)

L7	Personal Loan (Secured)	12.25%
L1	Personal Loan (Unsecured)	13.25%
L6	Housing (Owner Occupied*)	10.25%
L3	Personal Investment	11.25%
L5	Bridging Finance	11.50%
S6	Secured Overdraft	11.75%

\*Qualifying conditions apply - refer SIROCREDIT

# Accrual accounting for CSIRO

*Priorities, redundancies, and Corporate Identity; Total Quality Management, performance rewards and punishments, and the magnetism of Melbourne ... all straws in that unrelenting wind of the change from public to private orientation. And now another hefty straw has just blown in — accrual accounting.*

*Up to now CSIRO has operated on a cash accounting basis, where the only money that counts is cash in hand — when you actually get some, that's income, and when you actually hand some over, that's expenditure.*

*Accrual accounting, by contrast, recognises income when it is earned and debts when they are incurred as well as cash transactions. Also called 'commercial accounting', it's the system they use in the private sector, and CSIRO's Executive Committee has decided we should be using it too.*

*As October is the month chosen for the official changeover, Graham Thompson of CSIRO's Corporate Finance Branch offers CoResearch readers this account of what we're in for and why.*

This month marks the beginning of some major changes to the way we handle our finances.

The changes will come from CSIRO's switch to accrual accounting and the UNIBIS accounting systems. The switch-over began in the Division of Plant Industry in Canberra on October 6, and will be Organisation-wide by June 1993.

## What is accrual accounting, and why is it being introduced?

Accrual accounting is the form of accounting used by most large private-sector organisations.

Instead of focusing only on cash received and spent, as our present system does, accrual accounting looks at overall assets and liabilities. It takes into account a range of financial factors such as depreciation of those assets and amounts owed by and to the Organisation.

The Executive Committee has adopted the new system mainly because it gives a better measure of the real cost of research, and because that in turn makes for better research priority-setting and pricing.

Accrual accounting also gives a better picture of the overall financial position of a Division, or the Organisation, and leads to better management of assets.

## The UNIBIS accounting systems

The UNIBIS accounting systems are commercial systems that CSIRO bought 'off the shelf' from Windhover Data Systems Pty Ltd, a Melbourne-based Australian company.

Several Australian companies — including OPSM and Australian National Industries — have already installed them.

The Organisation is not adopting accrual accounting for the sake of being in step with some trendy accounting

philosophy, but to help us do our job better, and the UNIBIS systems will make it possible to switch to as little or as much of accrual accounting as is called for in our case. We've had to make some modifications to the systems to match them to CSIRO's way of operating, but

also concerned to provide the information in as cost-effective a manner as possible. This is clearly different from other commercial organisations, who do accounts to a very fine level of detail.

People from CSIRO's Information Technology

Services Branch and the Corporate Finance Branch talked with Divisional staff, including Chiefs, about how far down the accrual accounting track the Organisation should go, and about which specific systems we should buy to implement it. Most of the staff consulted have welcomed the changes.

## Implementation

The systems will be implemented at the rate of two or three sites a week for most of what's left of the financial year.

A major training program for all staff affected by the changes has been developed with Coopers and Lybrand, under the eagle eye of a CSIRO steering committee.

The steering committee consists of representatives from Institutes, Divisions (including research managers), the Corporate Finance Branch and the Information Technology Services Branch.

There are separate courses in accrual accounting — for finance managers (three days); program managers and project leaders (one day); and UNIBIS users (two days). At most sites there will also be a week-long course covering how our hands-on users should use the UNIBIS system.

Staff can choose to take training in any of the various modules and won't need to attend those that don't apply to their work area.

By the time it's done, the training program should have provided some 3,000 days of training. ♦

we've kept them to a minimum.

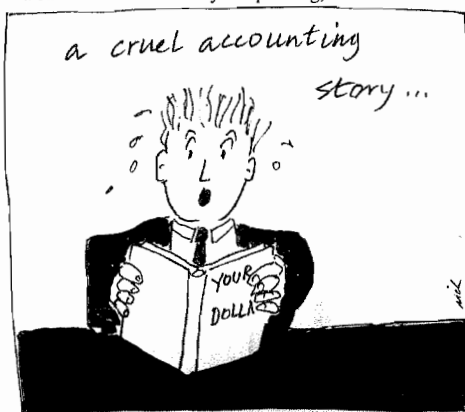
They offer several attractive features, including —

- a sponsorship module designed to improve CSIRO's management of externally funded research projects, by providing managers with information on invoicing schedules, receipts, conditions of grants etc;
- more commercial management information on running costs such as depreciation;
- more commercial invoicing and receipting facilities, including better management of debts owed to the Organisation; and
- simpler and more efficient ways to record assets.

The Division of Plant Industry in Canberra has recently been piloting the UNIBIS systems, with most users judging them very helpful.

## Consultation

CSIRO's version of accrual accounting was developed primarily to provide our research managers with a good deal of flexibility in deciding the level of accrual accounting information they use in managing. Of course we were



## AUSTCERAM 92



Above, CSIRO's stand at AUSTCERAM 92, an international ceramics conference held recently in Melbourne. The conference, which spotlighted CSIRO's contribution to the science of ceramics, attracted more than 400 delegates from home and abroad. CSIRO staff from the Division of Materials Science and Technology provided much of the manpower and expertise needed to run the event: left to right, Dr Mark Trigg, Dr John Drennan, Dr Rob O'Donnell and Mr Bob Brett (who designed and built the display). Photo by Mr Mark Fergus.

## Battle against blue-greens

Last year Australia had a bad scare over water. It's not as if it's something we've ever had much of, but suddenly we were hearing that even the bit we had was turning nasty. Our river systems were being poisoned by blue-green algae.

Luckily it was coming up for Christmas, so alternatives to water were easy to get, but even so water purifying kits started appearing in shops and homes all over the country, and sales of bottled water rose.

At about the same time CSIRO got a new Chairman, Professor Adrienne Clarke, and her first announcement was that the Organisation would double its internal funding for research into the problem, from \$3 to \$6 million over the next three years. The CSIRO Algal Research Program was born.

The new program is aimed at helping resource managers outside CSIRO, such as public water authorities, with their algae problems. A Program Co-ordinator, Dr Richard Davis, was appointed on July 26.

Dr Davis's work focuses on transforming the mountain of data available on the subject into forms that will help environmental managers make the right decisions. His final products are called 'decision-support systems'.

He was recently responsible for working up such a decision-support system for catchment management. It helped resource managers in the Onkaparinga Ranges in South Australia to develop policies on land use and new management strategies.

The same system was then modified to help with the long-standing problem of algal blooms in the Peel-Harvey catchment of Western Australia. Now it is also being applied to the Hawkesbury-Nepean catchment to help the Sydney Water Board predict the impact of that city's growth.

Dr Davis got his PhD in Physics from the Australian National University. He worked for three years at their Urban

Research Unit before joining the Socio-economic Group of CSIRO's Division of Land Use Research (now Water Resources).

He has devoted much of his research time to the development of computer technologies that can help environmental managers make sound decisions based on all the vital factors. These technologies let them incorporate geographic information systems, expert systems, decision-support systems and models.

Working with resource-management agencies outside the Organisation, the CSIRO Algal Research Program has identified ten promising areas for new research projects:

- flow management to inhibit algal growth in the Murrumbidgee River;
- flow management on the Murray, downstream of the Darling River;
- development of monitoring equipment and methods;
- effects of nutrients and micro-nutrients on the growth of algae (emphasis on Swan River);
- nitrogen-phosphorus ratios (emphasis on Murray-Darling);
- environmental factors that switch on toxins;
- assessment of toxicity and taxonomy;
- effects on health;
- review of other management options;
- system integration and conceptual models.

For more information on the work CSIRO is doing on algae, contact —  
Dr Richard Davis  
Program Co-ordinator  
CSIRO Algal Research Program  
phone: 06-246-5706  
fax: 06-246-5800

The resulting homogenisation process yields competencies which are to all intents and purposes meaningless in their generality. After all, what is a 'complex task/problem'? How does it differ from a 'very/highly complex task/problem'? Where do you draw the line? I am not aware of any objective (or generally agreed upon) quantitative (or qualitative) criteria which I can use to categorise or judge such differences. Any judgements I might perform in this regard would have to be subjective in that they would stem from my own experiences with 'complexity'. Is this any fairer than what was done in the past?

The whole monolith of PPE has been built on the quicksand of objective general competencies. It is high time that someone admitted that there really are no such things. It smacks of arrogance (e.g. subjectivity mistaken for objectivity) or ignorance to propose that all people should conform to competencies as they are defined by PPE.

I do not pretend that these comments are objective, but they are the logical reasoning born of my own subjective experiences. I realise that I have not provided any suggestions regarding PPE, but if I had to provide one, it would be incineration.

Sincerely yours

David L. Adelson, PhD  
Senior Research Scientist

Dear Editor,  
I would like to respond briefly to the points made by Dr Adelson in the letter he sent to me and to the Editor of *CoResearch*.

His appreciation of the value of the PPE objectives is shared by the majority of staff who have provided feedback to the review of PPE. Their comments support the belief that there has been an improvement in the communication, planning and understanding of objectives and training and development for staff. Whilst achievements of the goals of PPE may not require this specific program and are indeed signs of good management, in many instances they were not being achieved prior to PPE.

The main justification for PPE is the improved management of the performance of CSIRO's staff in the short and long term to make sure that we make the most effective use of our most valuable resource. To this end PPE provides a structure within which to develop, evaluate and reward staff.

By defining objectives with performance indicators which are observable, the staff

member and manager are setting explicit criteria against which the performance can be evaluated. This has the benefit of allowing the staff member to know the criteria against which s/he is being judged rather than this being known only to the manager. It also increases the objectivity of the process, but, of course, an element of subjectivity will always remain.

The concept of competencies was introduced as part of the award restructuring agenda to place greater emphasis in the evaluation process on the generic knowledge, skills and abilities which determine the standard of performance at each level.

As Dr Adelson points out, the competencies and the standards for different levels are phrased in general terms to allow the knowledge, skills and abilities to be applied in the wide range of work roles of CSIRO staff. A major criticism of the old classification guidelines was that they were too prescriptive and did not cope well with the changes in technology or science.

The glossary of terms and the detail in the Functional Area matrices provide additional definition. However, it is clear that the definitions need to be improved so that managers and staff can recognise their standard of performance within the guidelines. These problems will be addressed through a review of competencies which is now under way.

I thank Dr Adelson for his response.

Anama Morriss  
Staff Appraisal and  
Performance Management

## Grey Power lobby ignored?

Dear Ma'am,

In keeping with your initiative regarding length of letters to the Editor, I submit the following 81-word offering:

I note with dismay the Chief Executive's failure to make provision for — or to assure staff that provision has been made for — the redeployment within CSIRO or the relocation of certain ancillary support Corporate Centre staff. I refer, of course, to those grey kangaroos whose occasional appearances at HQ give us such pleasure, and who remind those of us involved in CSIRO's environmental concerns that some of the Organisation's key stakeholders are unable to express their concerns about the Organisation's future.

Yours,

C.D. Creagh  
Ecos

continued page 7

# Caption Competition

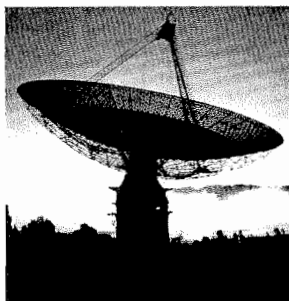


Well, plenty of entries for the above photograph, but some, I'm afraid, unsuitable for publication. The winning entry comes from David Adelson (yes, the same one that wrote the letter opposite) from the Division of Animal Production in Prospect: 'In a foolhardy moment, Edwina decides to test the new shark repellent formula on hungry teenagers.' David also submitted, 'That's right, take a bite and if you don't like it just spit it out into the dish', which is lovely, but I think the second prize has to go to Lynn Pulford of Education Programs in Canberra for 'I once touched Tom Cruise'. A close competitor came from Jill Colefax, Division of Wildlife and Ecology — 'Science is great but it certainly isn't glamorous. This is where I keep my broken fingernails'. I enjoyed the variety of the three entries sent by Dr Ron Chatelier of Chemicals and Polymers: 'Notice how the finger dipped in SIROFLOC-treated sludge smells much better than the control finger'; 'You don't need to thank me: a kiss on the finger will be quite sufficient'; and 'It's our new plastic hair follicle: if you look closely enough you can see it a mile off'. One for sports fans from Bob Schuster of the Division of Soils — 'This stuff is very powerful; one touch and your index finger points straight out. It has been especially developed for Jimmy Connors to do his tennis wave'. That case-hardened contestant from Building, Construction and Engineering, Harold Breiting, delighted the judge with 'Science wears your fingers to the bone; here, look for yourself!' and 'I've had enough of you lot; there's the door!' Jane Lewis-Male, from Plant Industry, sent in an entry totally different in concept from all the others — 'The world's first genetically engineered elephant?! I'm not falling for that one!! Plenty more entries, but no more room, so let fly at the one below instead ...



## CSIRO puts out perfect Christmas present

Peter Robertson, of CSIRO's Information Services Branch, has written the story of the planning and construction of the Parkes Telescope in New South Wales. Around this central theme he presents a broader and authoritative history of radio astronomy, describing its rapid rise to become the respected partner of traditional optical astronomy. The opening-up of the radio window on the



universe has been one of the most exciting developments in modern times.

This beautifully bound and illustrated book has just been published by Cambridge University Press, and normally sells for \$59.95.

It is available to CSIRO staff at a 25 per cent discount through the CSIRO Bookshop (\$44.95 over the counter or \$49.95 including postage). Order early for Christmas.



## Letters to the Editor (from page 6)

### Cotton Researcher of the Year Awards

Dear Editor,  
I was honoured to see mention of my award of the Cotton Researcher of the Year for 1991 in the latest *CoResearch* (No. 349). It appears someone in Division of Entomology passed on the news.

The awards are given at the biennial Australian Cotton Conference and so there are two awards given at each Conference. Unfortunately there appears to have been a little confusion since I actually received the 1992 award and an unfortunate omission since Dr Lewis Wilson (CSIRO Division of Plant Industry, Cotton Research Unit) received the 1991 Cotton Researcher of the Year Award.

Perhaps in the next *CoResearch* you could include an item about Lewis's award.

Yours sincerely  
**Gary Fitt**

Program Leader  
CSIRO Cotton Research Unit

### An open letter to CSIRO staff from

**Patricia Quinn-Boas**

Farewell everyone! I'm off to learn new skills and competencies down on the farm.

Instead of continuing to push those EEO suds up the hill with a pointy stick, I shall be cursing split pipes on a frosty morning, bullying my temperamental water pump, attacking the vegetable garden, teasing trout in the river and harassing the resident fox who enjoys regular chicken dinners chez moi.

Among my CSIRO souvenirs are the pre-dawn queues for the loo with Perry de Rebeira at Kellerberrin before going to unroll the mist nets, wearing Lorna Kent's clothes (and black nightie) at Culgoora when my luggage went astray, getting light-headed with Delia Muller

in Townsville (and with Mike Cannon on a bibulous plane flight) on her home-made cumquat liqueur and receiving a Big Gig response from staff at Ryde and Albury to my EEO seminars.

People I'd like to thank are my EEO Contact Officers past and present for their friendliness and hospitality when I visited, EEO Scholarship Co-ordinators and their committees for their commitment and energy, and everyone (including even Chiefs and OICs) who had a kind word for me when I intruded on their important work to talk (and scare the daylight out of them) on aspects of EEO.

I'm sowing different kinds of seeds now on a small property on the Delegate River in very Southern NSW. There's plenty of manure around to stimulate growth and I'm anticipating a good harvest. This makes me feel more confident that, as there's plenty of the same around CSIRO, some of the EEO seeds I scattered during my time will flourish and go on to self-seed and to blossom politically.

So — so long, it's been good to know you. Come down and see me some time.

**Patricia Quinn-Boas**  
'River Corner'  
Delegate NSW 2633

### And another from Jenifer North

Dear Madam Editor,  
Through your columns I'd like to thank all those who responded to my plea earlier this year for possible pictures for the CSIRO Christmas cards. I got an enthusiastic response and received some really excellent slides and prints.

These were added to my meagre collection and presented to John Stocker so that he could select one for CSIRO and one for his personal card.

Guess what! The two he picked (unprompted and unhesitatingly) were Divisional ones sent in to me.

Congratulations to Liz Dare (Horticulture) and Paul Marvig (Coal and Energy Technology) for providing the chosen pictures.

I hope all photographers and other staff will keep an eye out for attractive pictures related to CSIRO research that could be used next year. I'll ask again through *CoResearch* as this exercise was so successful. Thanks everyone,

**Jenifer North**  
Manager Corporate  
Communications.

### Fertilisers: friend or foe to bluey-greens?

*CoResearch* also received a letter from an outside reader, **D.R. McGuffog**, who is the **Business Manager (Crop Protection)** of **Incitec Ltd** in **Brisbane**. Mr McGuffog's letter was far too long to include, but his comment was that the article in *CoResearch* 346 (March 1992) entitled 'What are we doing about blue-green algae?' overplayed the dangers of fertiliser use. 'The reality,' he said, 'is that the issues are much broader and involve complex interactions. Fertilisers probably play a minor part, and may indirectly help reduce rather than encourage algal bloom.'

Any comment from the experts?

\*\*\*

### Calling all scientists

If any of you are planning to be in the UK between April 10 and 24, 1993, and might be willing to give a lively talk on the topic of your choice to the general public, please contact the **Edinburgh International Science Festival** at 1 Broughton Market, Edinburgh, EH3 6NU. Tel: 031-556-6446. Fax: 031-557-3743. (No pay, but UK travel, subsistence and overnight accommodation paid.)

## CSIRO wins top award



**CSIRO won quite a few hearts at the Perth Royal Show this month. But then, we always do that. This time we also won a prize. And that was all the more impressive in that ours was a low-budget, CSIRO-staff-intensive effort, with troopers like Peter Murphy, pictured above, and Bruce Chandler, staggering those around them with the amount of work and enthusiasm they kept pouring in. Angela Gackle, of the Organisation's National Information Network, thought *CoResearch* readers ought to be let in on some of the details of the good news, and has written this report ...**

CSIRO was on display in full force during the Perth Royal Show from September 26 to October 3.

We had a 20-metre by 25-metre pavilion displaying work across eight Divisions — Animal Production, Exploration Geoscience, Fisheries, Forestry, Geomechanics, Mineral Products, Plant Industry and Wool Technology.

The Divisions of Water Resources and Wildlife and Ecology, for the second year in a row, were part of the Landcare group display.

Our pavilion won the Royal Agricultural Society's top award — 'Special Award for Commercial Exhibitors'. Some notable features were many excellent photographs (including the Corporate Photographic Display), videos, pieces of equipment, the genetic engineering exhibit 'Will Pigs Fly?' and CSIROSEC and Double Helix Club activities — not to mention the staff.

An estimated 100,000 people visited our pavilion over the eight days of the Show.

Rather than use up this space acknowledging the large amount of work and time and commitment put in by so many people to make this event possible — and ultimately successful — I am offering some spontaneous thoughts about the value of such events to CSIRO.

In this era of instant gratification it is a pleasure to see families (often with two or more generations present) or

other groups, taking the time to browse around our exhibits, discussing the ideas presented and often waiting to ask questions.

It was also a pleasure to see —

- CSIRO staff responding so well to the public — our public;
- parents having to drag their children away from our exhibits;
- people engrossed in the intricacies of tender wool;
- adults and children poring over a dish of dung beetles;
- bookstall browsers extolling the virtues of *Ecoss*, *Composting*, etc ...

The display was professionally presented and looked great. Invariably the areas where the public spent most time were those sporting CSIRO staff willing to talk — about the display, science, their work, CSIRO or none of the aforementioned. For questions in the head-scratching category we had a supply of National Information Network (NIN) enquiry postcards. (If you haven't seen this useful little item let us know.)

I'll bet the staff who 'did time' at the Show will have stories to tell about their experiences and, hopefully, some new insights.

\*\*\*

Peter Murphy would like to compile a series of HELP notes for similar events in the future. They would cover equipment hire, insurance, timing, support, and so on. If you have something to contribute please contact him at the Perth NIN office on 09-387-0710. ♦

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B.Sc.(Hons.) Dip. Ed.  
Philip Plevin  
B.Sc.(Hons.)



# People...People...People...People...People...People...

## Recycling old ideas and information ...

## and starting up a cycle of fresh ones?

For all our paring back we in CSIRO are still wealthy in learning resources. Especially books. When our reference books get out of date, we tend to chuck them.

Oh, we might try to give them to the Library first, or Archives, but that's often mainly a sop to our environmental consciences. The people running those services are just as pushed for space as the rest of us. More so, on the whole. They can take only limited quantities of even the ones they do want to hang onto, and they emphatically do not want bulk copies of archaic, superseded works.

But there are people who do. Badly.

I was recently contacted by one Sue Halbwirth, the Manager of a group called The Australian Centre for Publications Acquired for Development — ACPAD, to its intimates. I liked her simple everybody-wins solution, and thought it well worth passing on to staff.

ACPAD's whole work is the distribution of information resources — meaning books, mainly. They collect these from Australian sources and send them to libraries in the Asia-Pacific region.

Set up eight years ago, the service distributes around 2,000 cartons of reading matter per year to over 50 institutions.

Ms Halbwirth decided to contact *CoResearch* because she herself was contacted by a scientist who used to work for CSIRO. He doctored us in as a possible good source of materials to augment ACPAD's small service, and that seems fair. Possibly brilliant.

The dobber-in is Dr John Wheeler, who took an early retirement from the Division of Animal Production in Armidale to work in an Indonesian university.

He noticed that although a few elite institutions in that country had modest libraries, the great majority of universities had almost non-existent holdings of useful international reference material for research purposes.

He said that in the more remote universities the faculty libraries — especially in basic and applied sciences — are often 'smaller and much less relevant than the private collections maintained by many CSIRO scientists'. Knowing that, he wanted to find a way to encourage colleagues who are retiring, 'or being crowded out of their offices', and who have unwanted sets of journals,

reference works, text books and conference proceedings to get in touch with ACPAD.

And ACPAD does seem to be the way to go, rather than sending one's own charity parcels off into the void. They know who's neediest and most deserving, and they are funded — under the Australian International Development Assistance Bureau (AIDAB) — to cover the costs of sorting, shipping and entry.

They also have a system that allows the libraries to select the most appropriate titles for their own needs.

Some countries being helped at the moment are Indonesia, Thailand and the Philippines. Shipments are being planned for Cambodia, Laos, Vietnam, Burma and Africa.

Here's the sort of thing most wanted —

- resources suitable for tertiary/technical study and/or research collections;
- publications, microforms and audio-visual resources in good condition;
- journals, preferably in runs of at least two years;
- monographs — published in the last 10 years — in all disciplines;
- reference books of all types, including directories, dictionaries, abstracts and indexes; and
- resources with contents of an international nature (content too specific to Australia is not suitable).

\*\*\*

As to Our Man in Indonesia himself — Dr Wheeler — he says that the meagre little library of the Faculty of Postgraduate Studies in Sam Ratulangi University, Manado, where he now works, would rejoice particularly over material in agriculture, animal and marine science and undergraduate-level basic sciences.

\*\*\*

If you'd like to help please contact ACPAD before sending them anything, and it would be extra handy if you had a rough list for them of what you have to offer. The people to contact are either Sue Halbwirth or Annita George, by phone on 06-285-8222 or fax 06-285-3036. The postal address is ACPAD, GPO Box 2006, Canberra ACT 2601.

♦♦♦



Graphic designer Annie Schuster helps work-experience trainee Justin Garret adjust to the rigours of the working world at Corporate Centre. (Actually they're both helping out the Public Affairs unit by modelling for a corporate brochure.) Photo by John Houldsworth.

*Justin Garrett, a communication student at the University of Canberra, recently spent three weeks with CSIRO's Public Affairs unit. He was on work experience, but it was the experience of taking tea that struck him most. With hands still shaking from the caffeine or the horror of it all, Justin thrust this brief account of his impressions of the working world into the *CoResearch* contributions tray as he hurried back to university.*

On September 15, 1992, I approached CSIRO's Canberra headquarters building to begin my initiation into the world of people who work for money. The building is plain and isolated, but commanding. It stands on a grassy high point of the city near the Australian War Memorial. They call it 'the tombstone', but it looks more like a sort of disciplined dagwood sandwich, with long thin layers of people in aspic laid between slices of plain white concrete and garnished with a carefully arranged salad of lovely native gums. It represented my first venture outside the shelter of the Australian education system, and it carried quite a culture shock.

Working in one of Australia's largest organisations for five days of the week is quite different from attending uni for three hours a day, two days a week.

First, there's the early mornings. Now, for an arts student at the University of Canberra, 9 am is an early start. Climbing out of bed around mid-morning is par for most of the students I know, but maybe that says more about me than uni students in general. Most CSIRO scientists would probably have different memories of their years at

university.

Then there's making yourself look respectable every morning. When you only attend uni for two days a week you don't need to shave and dress nicely every day of the week. When you work with other people you have to make yourself smell nice and look like a human being.

One of the weirdest things that goes on at headquarters is a religious group ritual — morning and afternoon tea. The tea lady is long extinct in other organisations, but at CSIRO she is still an integral part of this ritual. Twice a day, when she pushes her trolley through the corridors the far-off tinkling of spoons and cups draws the worshippers from their secluded domains like Pavlov's dogs.

Once all have received their blood-warm sacraments,

whether tea or coffee, they gather in the office tabernacle and begin the ritual. This will amount to dirty jokes, how pathetic last night's movie was, or, if it's the Public Affairs unit, what happened on *Sylvania Waters* or *GP* this week.

This ritual is very seductive. I was caught by it on my first morning, and from there it got worse. I found myself drinking tea as if it were beer. I've had more cups of tea in these past three weeks than I've had in my entire life. Being an outsider to the group the first thing I had to do was fit in. And the quickest way to do that was to join in the morning and afternoon tea rituals. It felt weird, and it took half a week to get used to tea, but I think it worked!

Part of my work was to watch and analyse the video magazine *Video News*. After watching three episodes over and over and over again, I have come to one definite conclusion. John Stocker needs a new hairstyle. The way his hair lopes to one side is really frustrating.

They were three great weeks. I learned a lot about my chosen career and about CSIRO, thanks to all the staff at Public Affairs.

♦♦♦

***CoResearch* is produced ten times a year by the Public Affairs Unit for CSIRO staff and interested outsiders. Distribution 8,500. Readers are encouraged to contribute or offer suggestions for articles. Stories may be reproduced, provided acknowledgement is given to both *CoResearch* and CSIRO. The deadline for contributions is two weeks after the preceding issue, but earlier is better, as issues fill up fast. Editor: Liz MacKay  
PO Box 225, Dickson ACT 2602  
Phone: 06 276 6567. Fax: 06 276 6641**

# CoResearch

No. 351

December 1992

CSIRO's staff newspaper

CSIRO  
AUSTRALIA

## Ezio Rizzardo wins 1992 Chairman's Medal

CSIRO's own annual gold medal for excellence in research, the Chairman's Medal, has gone this year to Dr Ezio Rizzardo of the Organisation's Division of Chemicals and Polymers.

Dr Rizzardo has shed new light on how some of the basic building blocks of matter form and behave.

But his work has more than intellectual interest. His creation of new tools for designing and engineering polymers — large organic molecules with various and complex structures — has aroused intense interest among industrialists as well as scientists around the world. (Synthetic polymers are widely used in fabrics, packaging, construction, electronics, furniture, appliances and transportation.)

Professor Adrienne Clarke, Chairman of CSIRO, presented the medal, which also carries a cash prize of \$25,000, to Dr Rizzardo at the annual CSIRO Medals ceremony at Sydney's Powerhouse Museum on November 25.

The Chairman praised Dr Rizzardo for his combination of 'brilliant science' and commercial sense, which she said would put the Australian chemical industry 'at the forefront of specialised materials supply.'

A Strategic Research Alliance has been set up between CSIRO, Du Pont Australia and Du Pont USA for the commercial exploitation of the technology. They will design, produce and market high-value materials for use as coatings, paints and adhesives, and toners and inks for new-generation inkjet printers.

Professor Clarke also presented the four annual CSIRO Medals.

One of these went to the Fast Fourier Transform technology team from CSIRO's Division of Radiophysics for their development of Fourier processing technology, including microchips that promise to have car and home stereo systems delivering concert-hall-quality sound at greatly reduced cost.

The Air Pollution Meteorology team from CSIRO's Division of Atmospheric Research was awarded a CSIRO Medal for creating a computer program to help industrial architects site chimneys in a way that will

minimise pollution.

The program has been successfully used in Australia and overseas to determine the pathway smoke will take in the atmosphere, taking into account land features and changing winds.

Another of the internal Medals went to the SIROSCOUR team from CSIRO's Division of Wool Technology for developing a wool scouring technique that produces cleaner wool and gives good cost savings from effluent disposal.

Each year one CSIRO Medal goes to an outsider, and this year's external Medal was won by Dr Stuart Wenham and Professor Martin Green from the University of New South Wales.

Their world-leading solar cell technology is overcoming the main barrier to sustainable large-scale solar energy generation — the problem of improving cell efficiency while reducing cell costs.

♦♦♦



Above, Dr Ezio Rizzardo delivers his acceptance speech at the 1992 CSIRO Medals ceremony in Sydney. CSIRO Chairman Professor Adrienne Clarke, left, presented Dr Rizzardo with this year's Chairman's Medal for his work on new industrial materials.

### The winning teams

#### SIROSCOUR

Division of Wool Technology

Dr B.O. Bateup, Dr J.R. Christie, Dr C.A. Anderson, Dr J. Warner, and Mr A. Pearson.

#### Fast Fourier Transform Technology

Division of Radiophysics

Dr J. Ables, Dr C. Jacka, Dr J. O'Sullivan, Dr G. Poulton, and Dr J.D. Bunton.

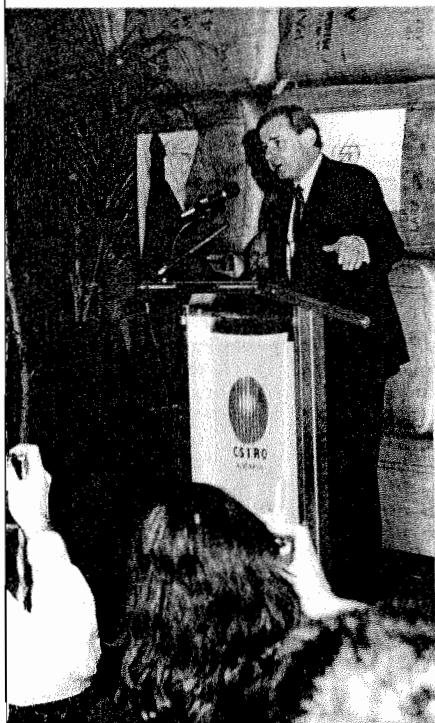
#### Air Pollution Meteorology Division of Atmospheric Research

Dr P.C. Manins, Dr W.L. Physick, Dr J.A. Noonan, Dr P.J. Hurley, Dr J.L. McGregor, and Dr D. J. Abbs.

#### Solar cell technology Centre for Photovoltaic Devices and Systems, University of New South Wales

Dr S.R. Wenham and Professor M.A. Green.

## Crean opens new wool lab



The Minister for Primary Industries and Energy, Simon Crean, officially opened a new wool-processing mill at the CSIRO Division of Wool Technology's Geelong Laboratory on October 19.

The opening attracted a good crowd, and the Division later hosted tours of the building, which includes new laboratory facilities.

CSIRO Chief Executive Dr John Stocker spoke at the opening and took the opportunity to announce publicly the Organisation's new wool-measuring device based on laser technology, SIROLAN-LASERSCAN.

Dr Stocker reminded the audience that it is vital for the wool industry to be able to measure the diameter of wool fibres quickly and accurately.

'This characteristic,' he said, 'is the most important property of wool for determining its processing and end-use potential, and thus its price.'

He said the new CSIRO instrument 'makes possible the fast and reliable monitoring of fibre diameter distribution at every stage in the production of the wool fibre, from the breeding and growing of sheep through to the harvesting, marketing and processing of wool'.

## CSIRO's new gas meter a world first

Ross Free, Minister for Science and Technology, launched a new domestic gas meter in Sydney last month. Developed jointly by CSIRO and AGL, it works by measuring the speed at which sound travels through the gas. He called it a 'radical improvement on existing technology'.

The new meter is extremely accurate and, since it has no moving parts, is almost everlasting. It is also extremely compact compared to the old type.

CSIRO scientists say the technology is the most significant change in gas metering technology in over a hundred years. The new-generation gas meter will be about the size of a video tape. Battery-operated, it gives improved accuracy over a range of temperatures and flow rates, needs little maintenance and can be read electronically. A further development will enable it to communicate direct with the central billing office of the future.♦

## New Co-operative Research Centres give boost to beef and wool research

On December 14 the Prime Minister, Paul Keating, in a joint statement with Science Minister Ross Free, released the list of centres to be funded in the third and final selection round of the Co-operative Research Centres program.

Dr Bernie Bindon of the CSIRO Division of Animal Production in Armidale is to be Director of one of these, the Co-operative Research Centre for the Cattle and Beef Industry.

Dr Oliver Mayo, Chief of the Division, said the centre would create at least 40 new positions for research and technical staff.

'The recognition by the Government of the importance of an integrated research program for the beef industry is welcome news for Animal Production,' he said, 'especially as this is happening at a time when funding for animal production is decreasing.'

Dr Mayo also welcomed the establishment of a CRC for Premium Quality Wool.

'The wool industry's research effort, after suffering many recent setbacks and hardships, has been revitalised by the Government's announcement today,' said Dr Mayo.♦



# Australian Science, Australia's Future



Above, CSIRO's new head office in Melbourne.

In the political and economic climate in which Australia, and in particular CSIRO, finds itself at the moment, it's going to be enormously important to use the time of the lead-up to the next election to continue to explain to the people of Australia that CSIRO is a relevant and necessary structure for national development. There has never been a more important time for us to explain very clearly the meaning of the words — 'Australian Science, Australia's future'.

There is now a general recognition that the international competitiveness of Australian industry must be improved. One element in this is innovation, and CSIRO's crucial role in industry innovation needs to be strengthened. So a focus on the 'I' in CSIRO will highlight an issue of great interest to the nation. It is also really a survival issue for our Organisation, since through it we can demonstrate our relevance, and show that we can live up to our role as the national industrial research organisation.

In support of this are several new initiatives of the Board. Our recent Board workshop looked at the performance of CSIRO against the ministerial guidelines and also at the future and ways in which we can improve further the linkage of our research effort to national benefit outcomes. One consequence of this was the conclusion that the Organisation needs to have a different kind of head office from the one we've had traditionally.

In the past it's clearly been very important for CSIRO to look inward to its own workings and to look attentively at its relationships with the government. But the next phase of our Organisation's development really has to focus on our relevance to end-users of research of all kinds — to industry, to government departments concerned with public-benefit aspects of Australian development and to

the community.

To build further our relationships with stakeholders it seemed important to the Board to work out structures through which we could effectively strengthen our links with the business community. This will be a central part of the mission for CSIRO's head office in Melbourne.

It will be a much smaller group than that which has served the Organisation in Limestone Avenue, and it will be outward-focused, looking out from the Organisation towards our stakeholders, and particularly towards the business community. It will place a very strong emphasis on the international dimension of the work we do.

It's my view that CSIRO, in affirming our position as Australia's national research organisation, must particularly seize opportunities in the international arena. Our scientists have built very powerful links with scientific colleagues in other countries, but haven't always enjoyed the support of the Organisation, or an articulated organisational strategy, to enable Australian businesses to use those links to get a foothold in important marketplaces. In my recent visit to China I formed the impression that a lot of excellent relationships have been forged by CSIRO scientists, but that we haven't taken the next step of developing a more strategic

approach to how Australian industry and other international interests could benefit from those relationships.

For that reason, in thinking about the structure of my new office I've decided that it must have a stronger emphasis on international links and on structuring business arrangements. To achieve this we will appoint to the CSIRO Executive Committee a Director of Corporate Business. This new member's role will be specifically to help us develop strategies for forming and maintaining such links.

In the last three years we've done that job well with large companies: we've formed some very important strategic alliances with companies like Boeing, BHP, CRA, Glaxo, MIM, and others. But in the next phase we need to think very, very carefully about the difficulty Australia has had in growing small businesses and supporting them with technology. It's been the experience in the United States, for example, that the motor of innovation for that country in a number of industry sectors has been small businesses with good technology. These are developed, through attracting investment, into medium-sized businesses that join and replace the giants. I believe in Australia we've seen very little of that happening, and we have to understand why, and what kind of role we as a technology community do and can play. That's going to be an important issue, and one that we're going to have to focus on in our new head office.

In support of this new emphasis the office will be divided into four business units under the management of the new Director of Corporate Business. These units will be Public Affairs, International Affairs, Legal Patents, and Business Development and Planning. They will make up a team that will specifically have this role of looking outward — to Australia and to the world.

They will try to establish a more strategic perspective on the ways in which we can ensure that Australian science is Australia's future.

This will complement the strengthened line management responsibility for commercialisation in Institutes and Divisions resulting from the devolution of responsibility from Sirrotech back to CSIRO. I want this head office group to be seen as a strong support structure for the Institutes and the Divisions in their development of strategies for the industry sectors they represent.

With the inclusion of the effective transfer of technology to users as a line responsibility of CSIRO managers we have all the five ministerial guidelines governing the operations of the Organisation clearly written into the duty statements of its senior managers. I believe that is definitely a recognition that 'Australian Science, Australia's Future' means that Australia needs its major research organisation to take a fully responsible role in research. It shows clearly that we know our obligations don't finish with providing good research — that we've got to think through to the next stage of how that research finds a user and how that user makes an impact.

We're coming up to Christmas, and it's been a tremendously busy year for many people in CSIRO. It's been a year in which uncertainties of many kinds have certainly affected the thinking of all Australians. I hope that CSIRO staff will use the Christmas period as a time for tanking fresh energy and will enter the new year with the vigour that we shall need to enable us to re-affirm our central role in Australia's future.

## Letters to the Editor

*The October edition of CoResearch, No. 350, published a brief abstract of a longer letter from D.R. McGuffog of Incitec Ltd and invited comment from CSIRO experts on the points he raised. The invitation has brought a detailed reply to the full text of that letter, which CoResearch readers have not seen. So I thought it best to publish the full text of Mr McGuffog's letter, together with the reply from Dr Sherman of the CSIRO Centre for Environmental Mechanics.*

Dear Editor,  
In the March, 1992 edition, No. 342, of *CoResearch*, in the article 'What are we doing about blue-green algae?', reference is made to 'the hot issue of possible over-use of phosphate fertilisers' and that 'the fertiliser drives the growth of the algae'. Dr Bowmer is quoted as talking about 'controlling nutrient sources — reducing fertiliser use'.

Such articles and statements imply that fertilisers are being used where they aren't required, or at excessive rates, and are a major cause of eutrophication, and in turn, algal bloom. They demonstrate a lack of understanding of the role played by fertilisers in agricultural production and sustainable farming systems.

The reality is that the issues are much broader and involve complex interactions. Fertilisers probably play a minor part, and may indirectly help reduce rather than encourage algae bloom.

Nutrient depletion (soil fertility decline) is recognised as one of the major land degradation issues facing Australia. In many situations,

fertilisers are not being applied at rates to maintain soil fertility, to replace the nutrients removed in farm produce, or lost in other ways, such as erosion. This is evidenced in the declining protein levels in Australian wheat, indicating that current farming practices are not maintaining soil fertility.

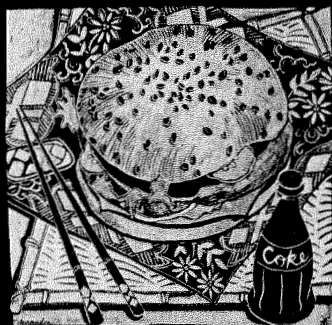
Upon application, phosphorus is adsorbed onto clay particles and other colloids in the soil, where it is tightly held and is resistant to leaching. The major way in which it is lost is through the erosion of phosphorus-rich top soil, attached to eroded soil particles.

It follows, then, that any measures which reduce erosion will, in turn, reduce phosphorus loss. Erosion losses are greatest when the soil is left bare, such as in over-grazed pasture, and in crops, following cultivation during the fallow period. Good pasture, and the retention of crop residues and trash on the soil surface, provide the best protection from erosion at the point of rain drop impact.

In crops, phosphorus fertilisers are typically applied into the

*continued on page 6*

## EXPORTING TO JAPAN: A GUIDE TO THE FOOD MARKET AND DISTRIBUTION SYSTEM



Graham Bell  
Fan Ng  
Janice Waring  
Melissa Vereker

**JAPAN PROJECT**  
CSIRO Sensory Research Centre

Pictured above is the cover of an impressive new publication from the CSIRO Sensory Research Centre. Dr Graham Bell, the co-manager of the Japan Project, which produced the guide, said that new retailing laws are causing a restructuring of the entire distribution system for goods in the Japanese market. He said this would result in better opportunities for Australian food companies. 'New Japanese buyer groups are now allowed to go out in search of imports, so Australian food producers and manufacturers can expect a surge in business.' He warned, however, that European companies are already grouping into alliances and actively pursuing this new Asian custom. 'Australia cannot afford to lose out to Europe and America in this lucrative market,' he said.

Anyone interested in entering the Japanese market could do worse than buying this new publication. It not only makes fascinating, and often amusing, reading, it has cover-to-cover information on what makes the Japanese market tick, politically, socially and financially. It is thoroughly researched, of course, since it comes from CSIRO, but it is also very up-to-date and well written. If you're interested, call Janice Waring at the Division of Food Processing in Sydney on 02-887-8454, or 8511 fax.

## Shall we labor, or coalesce?

Our present Minister, Ross Free, and the Federation of Australian Scientific and Technological Societies (FASTS) have been trading criticism in the media for some time now. Essentially, FASTS says the Government's science policies are inadequate, and Mr Free says more or less the same of the federation's public political stances, suggesting it's time the organisation was replaced.

Well, just what are the two main parties offering? Both want us to earn our keep and get more money from industry. And both are inclined to competitive funding rather than block grants.

The present regime requires CSIRO to find 30 per cent of its funding from the private sector and imposes a 1.25 per cent annual tax in the form of the 'efficiency dividend'.

In June this year Shadow Science Minister Peter McGauran told CSIRO's College of Chiefs bluntly that the Organisation was not integrating itself with industry. He then hinted at a possible Coalition solution to that failure, saying the present 30 per cent target for external funding should not be regarded as the beginning and the end. (He confirms, however, that his party would not disband CSIRO, contrary to earlier impressions.)

In September a copy of a Coalition working document leaked to *The Australian* revealed that, beginning in 1994, all public research agencies would have to match government

funding with an increasing percentage of private sector money.

The September Coalition Innovation document also said that such bodies would be required to contract out more of their research work and privatise any of their industrial programs that had good prospects of private funding.

Both parties, first Labor and then the Coalition, have, under pressure, decided to retain the established 150 per cent R&D tax break for industry.

Labor would continue to exact the 'efficiency dividend' at 1.25 per cent, and Fightback says the Coalition would increase this tax to 2 per cent.

On top of that, Fightback currently proposes an extra 10 per cent 'efficiency saving' across all departments' corporate and support management services.

There is no firm promise from either party to continue the triennial funding that CSIRO believes the long-term nature of scientific work requires. And neither has given a commitment on what the level of appropriation funding will be. ♦

# Second Millennium scenario revealed

(sorry, but it's floods again after all)

Why does everyone always pick on the weather forecasters? They don't often get it right in every detail, and they often don't get it right in any detail. And who on earth would expect anything else? Is there some group around making more accurate predictions of the future than they are? Economists, perhaps?

Maybe we just care more about the weather than we do about elections and wars and famines and pogroms, and even whether we're going to meet a tall dark stranger, have seven children and go on a long journey (sounds fair).

Weather forecasts actually affect our everyday behaviour. The forecasters tell us it will be sunny: we don't wear a raincoat, we get wet, we look silly, we feel cold. We resent it. We remember their failure.

CSIRO's Division of Atmospheric Research has released its latest scenarios for the way Australia's climate might change as a result of the greenhouse effect during the next century. Dr Barrie Pittock, Leader of the Climate Impact Group, stressed (not that anyone will pay any attention) that 'specific predictions of climate change for Australia cannot be made yet'.

'The scenarios we issue,' he said, 'are for the range of climate changes we consider plausible in the future, based on what we know now'.

So let's not hold them to it. Nevertheless, it's still the most scientific and therefore the most interesting glimpse of the likely shape of the future, when it comes to weather, that we have.

The scenarios the Division has come up with suggest that by the year 2005 Australia's inland areas will be warmer — by an average of 0.5 to 2.5 degrees Celsius. Northern coastal areas should also heat up, but only by a maximum of around 1.5 degrees in 2030 compared with today, with the southern coast just a little warmer with a rise of up to 2 degrees.

Rainfall changes are expected to come with the regional warming. The research suggests that regardless of the number of actual days of rain, rainfall intensity may increase, which would bring more floods.

'Of course,' said Dr Pittock, '2030 is only one date in the future'.

But his group's assessment is that by 2070 the climate will be even warmer and with rainfall changes greater than in 2030.

Last year's CSIRO prediction was for slightly greater temperature rises, but Dr Pittock says these latest ones are more accurate because of improvements in methods of assessment.

Interestingly enough, the newsletter of the CSIRO Division of Oceanography, *Undercurrents*, reports that unusually low temperatures are being experienced around the world at the moment. It's not a huge difference — around 0.5 degrees Celsius — and is generally thought to be caused

by the June 1991 eruption of Mount Pinatubo in the Philippines.

Pat McCormick of the American space agency NASA says that Pinatubo injected as much dust into the world's air as did the famous eruption of Krakatoa in 1883.

Apparently there has actually been a warming of from 3 to 3.5 degrees at high altitude as a result of sulphuric acid droplets from the Pinatubo eruption. However, the volcanic aerosols scatter sunlight away from the ground, so the earth's surface itself has cooled.

This surface cooling effect could last for up to three years before we get back to global warming.

American scientists say that middle stratosphere cooling, probably caused by the Pinatubo eruption, would also contribute to greater ozone losses. That means the eruption could be partly to blame for this year's record ozone hole.

Complicated, isn't it? ♦



If you're looking for really cheap accommodation in Sydney during December, January or February and don't mind about sharing toilets and showers, New College at the University of NSW in Kensington is offering rooms for \$20 a night. The college is on the main drag (Anzac Parade), with buses at the door, and the campus provides cheap food, a gym, heated indoor pool, shops, banks, and a pleasant ambience. It's poky, of course, but only 7km from the city and 4km from the airport. Call Margaret Tobitt on 02-697-8962 or fax 02-663-4680.

# Staff verdict on PPE

Earlier this year CSIRO's Human Resources Branch and unions got together to conduct a review of the new Performance Planning and Evaluation process. It was an extensive review, with two main phases, one after PPE Stage 1 and one after PPE Stage 3.

Anama Morriss of the Human Resources Branch took charge of a small CSIRO team who went out and interviewed managers, collecting information from 27 CSIRO Divisions.

Meanwhile the private company Yann Campbell Hoare Wheeler was commissioned to survey a 15 per cent cross-section of all CSIRO staff.

Well, the results are in. With a few serious reservations, we approve.

The most popular aspect of the new process was its perceived ability to improve relationships with supervisors.

The ability of the process to help with planning, setting of priorities and achievement of objectives was also seen by most as an improvement over the old system.

However, there was a lot of dissatisfaction with the rating scale, the time the process took up, the obscurity of the competency definitions, and the lack of delivery of training. (Managers and managed differed here, with managers thinking identification of training needs one of the strong points of the process.) Scientists particularly found PPE inappropriate to their work, but those lower down the pay scale were much more enthusiastic.

Nearly everyone — 93 per cent — completed the process,

and 83 per cent reported that they achieved their objectives. Mind you, more than a third had to change their objectives during the cycle.

Just under half of CSIRO employees scored 'very good', another near-half scored 'satisfactory' (a label resented by many, in light of the high commitment levels of the Organisation's culture), and two per cent scored only 'fair', meaning they didn't get their increment. This is the first time anyone in CSIRO has been denied an increment. Nearly one in every ten was recommended for a multiple reward.

On December 2 the Executive Committee had a look at the interim report of the review, including recommendations on changes to PPE, and the final report will be sent to Directors, Chiefs and Human Resource managers.

Anama Morriss is the one to contact for details and the latest developments. She's at the Human Resources Branch, Limestone Avenue, Canberra, after January 4, 1993. Phone: 06-276-6317.

If readers are interested, the reports, quantitative and qualitative, that came out of the study make fascinating reading. They will be available from your Human Resource Manager or Chief at the end of January. ♦



Above, Education Programs Manager Ross Kingsland introduces some young Australians to the delights of science. The children are members of the CSIRO's own science club, Double Helix.

## CSIRO science club takes out Eureka Prize

by Alex Wallace

The staff of CSIRO's Double Helix Science Club and its 17,500 members are celebrating a win — the Special ABC Eureka Prize for the Promotion of Science.

The Eureka Awards, the brainchild of the ABC's Robyn Williams, were set up in 1990 to reward outstanding achievements in Australian Science. They are presented every year by the ABC, the Australian Museum, POL Magazines, UNSW Press, the Department of Employment, Education and Training and Australian Airlines.

The club has been teaching young people about the fascinating world of science since 1986. Young Australians who become members are given the opportunity to take part in science activities and experiments organised within their own states by Double Helix officers.

They receive a full-colour quarterly science magazine, *The Helix*, which is produced by CSIRO's small Education Programs group. The magazine offers science features, experiments and fascinating tidbits of practical scientific knowledge. Members also get the chance to help CSIRO scientists with national field experiments, such as the recent *Earthworms Downunder* project.

The club offers an excellent grounding for budding young Einsteins, so if you know of any young people who are interested in science and aren't yet members, grab an application form and sign them up.

### Student Research Scheme

And while we're on the subject of encouraging young scientists, don't forget the CSIRO Student Research Scheme.

This scheme would never have been possible without the

enthusiasm and support of scientists willing to take on senior secondary students wanting to be involved with hands-on science.

The CSIRO Education Programs group has been running the scheme for the past 11 years. It exposes Year 11 and 12 students to real-life science. It gives them the chance to meet a scientist, start a new research project with that scientist and stay involved until the project is complete.

It's very different from science in the classroom, where a student may have only 40 minutes to get results from an experiment whose conclusion is fairly predictable.

Students are picked by the school's science department to take part in the scheme. These students then pick 15 projects that interest them.

Once the projects are allocated, the students are expected to make first contact with the scientist they will be working with. They arrange a mutually satisfactory time for the student to come to the lab to begin the research project.

The students are required to spend a minimum of 20 hours on the project. Arrangements for this are flexible — some complete their time during school holidays, others prefer to spend a little time each week on their project. The students work hard, often volunteering more of their time to help their scientist with other scientific work in progress.

Without exception students agree that the results and satisfaction they gain in the end are worth the effort.

The crux of the scheme is the availability of scientists. There

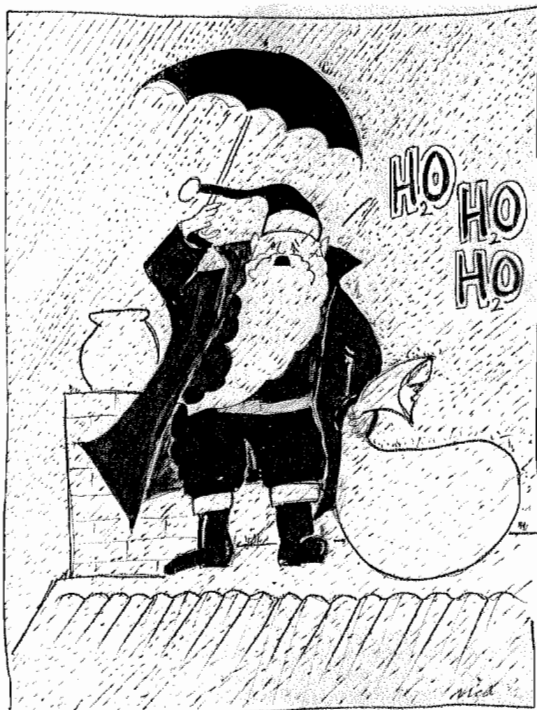
are always plenty of students to go round, but not always quite enough willing scientists. At present, scientists from CSIRO, the Australian National University, the Australian Defence Force Academy, the Department of Industry, Technology and Commerce, the Royal Melbourne Institute of Technology and the University of Tasmania, to name a few, are brought together under the scheme.

Ross Kingsland, Manager of Education Programs, believes that the Student Research Scheme is a valuable and powerful experience for both student and scientist.

'The scheme offers a rare opportunity to get across to the community how science really operates,' he said, 'the vital contribution it can make to Australia, but also the hard work required and the limitations.'

A new range of experiences is opened to scientists when they get involved. Students often bring a fresh approach into the lab, but scientists sometimes have to cope with simplifying their science for the new-comer. That can be a challenge for their communication skills.

Mr Kingsland thinks that scientists who want to help a student have little to lose. The Student Research Scheme doesn't only offer personal reward, it also adds to CSIRO's positive image in the community. Students present a report to their class about their experiences and in the process tell their peers and teacher all about CSIRO. A definite winner for Project Ambassador! ♦



Merry Christmas to all CoResearch readers! (Nick Goldie of Corporate Communication supplied the cartoon.)



# Sir Ian McLennan Awards Nickel and grass bring industry honours

This year's Sir Ian McLennan Achievement for Industry Award has two winners — Dr Robin Hill for work that has led to important nickel discoveries, and Mr Les Eyde for his development of a new grass species that has netted Australia \$13 million a year in beef cattle production and \$3 million in seed sales here and overseas.

CSIRO's Chairman, Professor Adrienne Clarke, said Dr Hill and Mr Edye deserved the thanks of the nation for the benefits that would flow to the Australian community from their work.

'The Sir Ian McLennan Achievement for Industry Award is a fitting tribute to their efforts,' she said.

The Award was established in 1985 by leaders of Australian industry and technology with the aim of giving public recognition to outstanding contributions by CSIRO scientists to national development.

## Nickel exploration

Geologist Robin Hill and his team, from the CSIRO Division of Exploration Geoscience, have uncovered new knowledge on how nickel deposits formed in Western Australia.

His research has cleared up previous errors and confusion, which had led to large tracts of country being either ignored or ineffectively explored.

Despite continuous exploration since the nickel boom of the 1960s and early '70s, companies had little success in Western Australia. But now, using Dr

Hill's theories, new deposits are being found and several companies are keenly re-visiting areas thought to be barren.

One deposit recently identified using Dr Hill's concepts could yield, if developed, about \$2 billion worth of nickel metal at current prices.

The CSIRO scientist have worked closely with several companies in developing their exploration techniques. These include Australian Consolidated Minerals Ltd, CRA Exploration Pty Limited, Dominion Resources Pty Ltd and Outokumpu Exploration Australia Pty Limited.

Dr Hill and his team had earlier received the Canadian Institute of Mining and Metallurgy Barlow Memorial Medal and a CSIRO Medal for their nickel research work.

## New stylo pastures

The other Sir Ian McLennan Award went to Mr Les Edye, a pasture scientist from the CSIRO Division of Tropical Crops and Pastures, for his new varieties of stylo pasture suited to Australia's northern areas.

The varieties can grow well in many areas and are resistant to anthracnose, a disease that

virtually wiped out the popular Townsville stylo in the early 1970s.

Mr Edye worked with State Departments in Queensland, New South Wales, Western Australia and the Northern Territory in testing stylo species.

Australia's second-oldest company, the Australian Agricultural Company, then worked with him to pioneer the large-scale commercial development of the new varieties.

Since their release during the mid to late 1970s, over 700,000 hectares in northern Australia have been planted with two of the new stylo varieties.

These pastures have made possible a significant increase in beef production.

## The Award

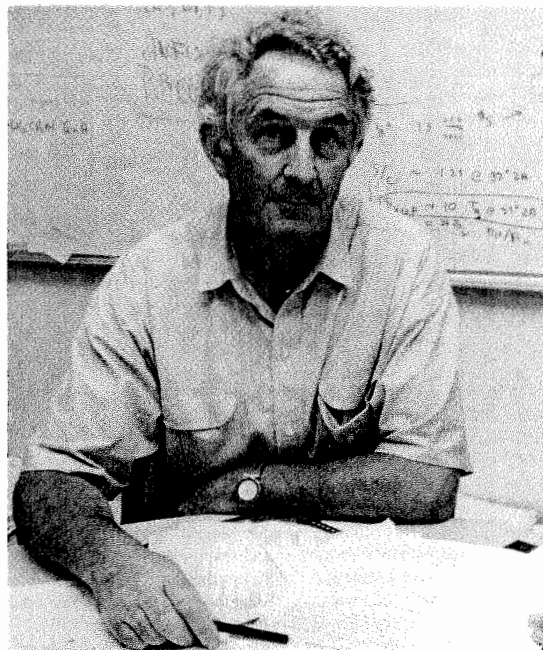
Named after one of BHP's influential leaders, the Sir Ian McLennan Award recognises research achievements that help Australia's economic development. It is funded by donations from industry and private individuals.

Each winner receives a Medal and \$10,000 towards an overseas study trip, and the industry partners receive a commemorative plaque.

This year's ceremony was held at the Victorian Arts Centre in Melbourne on October 15. The Awards were presented by Professor Adrienne Clarke, Chairman of CSIRO.

♦♦♦

# John Whiteoak wins Max-Planck Research Prize



Gazing out at the universe on a clear night can make you think more deeply about things. Basic, everlasting things. You might, for example, find yourself troubled by the obvious fact that the amount of visible stuff in the universe seems to be only a fraction of what has to be there to account for the observed gravitational reactions.

On the other hand, you might not. But astronomers do. And one of them, Dr John Whiteoak, of CSIRO's Australia Telescope National Facility, is about to be given a crack at solving that particular riddle, one of astronomy's most puzzling.

Dr Whiteoak, in partnership with Professor Richard Wielebinski of the Max-Planck-Institut für Radioastronomie in Bonn, has won the highly regarded Max-Planck Research Prize. He accepted the award in Bonn on December 8.

The prize provides \$A140,000 worth of support for the two scientists to conduct studies on the movement of stars and gas within galaxies.

The work is aimed at helping astronomers to understand the general internal dynamics of galaxies, and should also make it possible for them to estimate accurately the total mass of the galaxies.

With that information they can begin a systematic search for

the mysterious missing mass.

This search will call for the building up of an extensive database of observations. The Australia Telescope National Facility and the Max-Planck-Institut für Radioastronomie will work together on this, making observations with CSIRO's Australia Telescope and radio telescopes in Germany, Spain and Chile. They will also use the Anglo-Australian Telescope near Coonabarabran, NSW, to perform optical or infrared observations.

The prize is awarded annually by two German research institutions, the Max-Planck-Gesellschaft and the Alexander von Humboldt-Stiftung. It is given to internationally recognised German and foreign scientists for the purpose of allowing researchers in German institutions to develop long-term collaborative projects with distinguished researchers in other countries. ♦



Above, left, Robin Hill, Division of Exploration Geoscience, and, right, Les Eyde, Division of Tropical Crops and Pastures, display the two McLennan Medals awarded this year.

*This month CSIRO's Effluent Plantation Project at Wagga - Flushing Meadows - celebrated its first birthday with an Open Day. The scientists conducted tours, and it was a measure of the interest of their work that the visitors all spent willing hours stumbling over rough ground, sheltered from a bare, baking sun only by the unusually high density of flies, and came out looking brighter than they went in. There wasn't space in this issue, but watch for a feature on the project in the new year.*

## Letters to the Editor (from page 2)

soil at planting.

In pastures, fertilisers are surface-applied, top-dressing being done at the start of or during the growing season, when plant uptake is high and the chances of heavy storm rain are low, i.e. Autumn and Spring.

There is a deal of research, including that by CSIRO, which shows that soil loss in pastures can be reduced by pasture improvement—the use of fertiliser and introduction of improved pasture species. Erosion is directly related to the amount of ground cover, soil loss being greatest in over-grazed native pasture.

The blue-green algae outbreak in late 1991 was the worst on record, but it has not coincided with a period of historically high fertiliser use on pasture.

Superphosphate usage peaked in the early 1970s. At that time, Incitec, the major supplier of fertilisers in the states of New South Wales and Queensland, and to the stream catchments that make up the Darling River system, operated three major single superphosphate plants on the east coast of Australia, at Port Kembla, Newcastle and Brisbane. A smaller plant was also located at Cairns.

Since then, the demand for single superphosphate has fallen in cropping, where it has been largely replaced with high analysis phosphorus fertilisers. It remains, however, the preferred product in legume-based pastures.

In the lead-up to the 1991 blue-green algae outbreak, only one of these single superphosphate plants remained operational (Newcastle), and it operated well below full capacity. The demand for single superphosphate on pasture was depressed, firstly because of floods in the very wet autumns of 1989 and 1990, which prevented graziers from applying fertiliser; then by low wool prices; and finally drought in 1991.

Phosphorus enrichment of river water directly attributable to the use of fertiliser in the 1991 blue-green algae outbreak could, therefore, be expected to be lower than in other recent years.

Soil, and phosphorus, is lost in wet years, during peak rainfall events, in seasons when blue-green algae outbreaks do not occur.

In low rainfall years, high evaporative conditions will concentrate phosphorus, and other nutrients, in waterways. Ultimately, a stage is reached where blue-green algae will flourish.

Nutrient enrichment from other sources, such as sewage, is more constant over time, and

the magnitude of its effect is increased in dry years because there is less of a diluent effect.

As your article implies, many factors are involved. Yet, when land losses are referred to, the use of fertilisers is singled out, and soil erosion does not rate a mention.

Encouraging greater use of fertilisers might seem like throwing fuel on the fire, yet fertilisers are essential tools in sustainable and productive agricultural systems, to maintain soil fertility and crop and pasture yields. Their use improves the density and vigour of pastures, protecting the soil from erosion.

The role of fertilisers needs to be kept in perspective, and the positive side, as well as the negative side of their use publicised.

Yours sincerely  
**D.R. McGuffog**  
Business Manager  
Crop Protection  
Incitec Ltd

Dear Editor,  
Mr McGuffog raises some interesting points about agricultural fertilisers and the development of blue-green algal blooms. He argues that soil erosion is responsible for the ultimate deposition of nutrients in inland waterways and not fertiliser application per se. He also states that there is little correlation between fertiliser use and the growth of algae during the following year. Finally, he proposes that by increasing fertiliser use the density of pasture cover can be improved, thereby reducing soil erosion and nutrient loading of our rivers.

He is quite correct in pointing out that land management needs to be improved to reduce soil erosion. However, given that some soil erosion will occur while improved land management practices are adopted, nutrient loading to rivers will increase if fertilisers are applied.

The lack of correlation between algal blooms and fertiliser use during the previous year may be due to the physical processes that occur in rivers. Soil erosion might be causing a build-up of nutrient-rich sediments on the bottoms of rivers where velocities are low, such as in weir pools. The phosphorus will remain chemically bound to the sediments until the dissolved oxygen concentration falls below a threshold level; a condition that would be expected to occur during dry years when river flows are low.

Furthermore, there is now some indication that several of

*continued on page 7*

# Caption Competition



More and more often, people are sending entries to this competition that I think I ought not to print on the grounds of possible obscenity charges. Of course, as they say in the old joke about the psychiatric tests, I'm the one drawing the dirty pictures. I was surprised, given that nearly everyone focused on the coil, that there were no jokes about helixes, double or single. Anyway, here's a selection of the ones I think we may just get away with. The winning one comes from Dr Ron Chatelier, Division of Chemicals and Polymers, Clayton: 'Well, I'm not sure how it works, but I just blew into this tube ... and she smiled.' Dr Chatelier also submitted, on a grimmer but more topical note 'If we cut the oxygen supply tube at this point we could reduce the salary budget by a further \$30,000.' On this theme Justin Rigden of the Division of Horticulture submitted 'And the beauty of this system is when they don't live up to their agreed competencies you just pull the plug on their air supply.'

Another I loved, especially because it was totally unlike all the others, came from Kim McIntosh, Information Technology Branch, Canberra: 'Before we become really competitive in the space race, we've got to come up with a longer, stronger spring than this one.' Another that stood out for originality of mind-set came from Lynn Pulford, Education Programs — 'Are extraterrestrials interested in CSIRO research? This unidentified figure appeared in a photo taken at a CSIRO product launch.'

Nick Goldie, Corporate Communications in Canberra, sent 'and we're specially proud of the replacable intestine ...'; and 'and if you want your Sirobride a bit plumper, you just blow down the tube ...'.

From Gordon Abraham, at the Australian Animal Health Laboratory at Geelong, came 'The revolutionising of bridal bouquets has been one of CSIRO's outstanding achievements.' Another on commercialisation came from Adam Smigielski of Entomology — 'Another CSIRO success story: the perfect female condom complete with an extendable communications line.'

Roger Digby, CSIRO's Apprentice Co-ordinator at Manufacturing Technology in Melbourne, sent 'I'm very pleased with the birth of our new corporate uniform for our Melbourne offices.'

The lines of gaze weren't right, but I had to pay 'Now that I've set you free, can I take you home for Christmas' from Neil Venn at the Division of Plant Industry in Wembley, WA.

There were a lot of marriage entries, one of the nicest of which was 'Am I tied to this man for life, Daddy?' from Brian Harding of the CSIRO Magazines group in Canberra.

David Salt of Education Programs, who calls himself a friend, gave me 'Oh boy! It's a girl!', but I couldn't resist it.

As I'm always saying lately, plenty more entries, no more space; but if you missed out have a go at the rather weird photograph below, sent to me by Jenni Metcalfe up in Tropical Crops and Pastures.



## Letters to the Editor (from page 6)

the algal blooms experienced last year were not phosphorus limited; something else was controlling their growth. This is an ominous portent because it implies that our rivers have large stores of phosphorus which will take a long time to run down. It also suggests that it may be more fruitful to focus research on identifying other factors that limit, or can be used to limit, algal growth in rivers; perhaps another nutrient or the availability of light.

Turbulence plays a fundamental role in defining the riverine environment. Not only does it strongly influence the distribution of chemical species that lead to nutrient release from the sediments, it is the conveyor belt that carries nutrients from their source to where the algae are. Turbulence also limits the amount of light available to drive photosynthesis by dragging algae down out of the photic

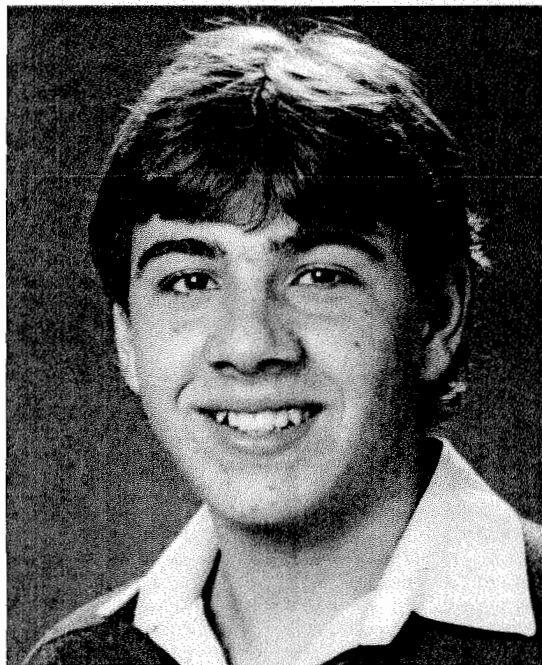
zone for significant periods of time. This may be especially important in turbid rivers such as the Murrumbidgee.

Unfortunately, little is known about the physical and chemical processes in Australian rivers and how they influence the biology. We don't know yet how widespread stores of nutrients in the sediments are. Nor do we understand fully the turbulent structure of the rivers. These issues are currently being addressed by the Centre for Environmental Mechanics in collaboration with the Division of Water Resources in Griffith and the Murray-Darling Freshwater Research Centre in Albury as part of CSIRO's blue-green algae programme. Field investigations commence this summer.

Sincerely

Dr Bradford Sherman  
Centre for Environmental  
Mechanics

## First winners of new ITT scholarships announced



Dr Colin Adam, Director of CSIRO's Institute of Industrial Technologies (ITT), has announced the winners of the inaugural ITT Apprentice Development Scholarships.

The scholarships are something quite new to industry and to CSIRO. They will make it possible for promising graduate apprentices to take on full-time university study for a Bachelor of Applied Engineering degree.

The idea is that this will not only enhance the careers of talented young workers but help keep up the supply of qualified engineers for CSIRO and industry.

The scholarships provide a basic stipend and paid vacation industrial experience in CSIRO.

The two winners are Richard Schuhmann, Division of Materials Science and Technology and Todd Thomas, Division of Manufacturing Technology.

Mr Schuhmann has also won the Gold Medal for CNC Machining at the Melbourne Region Work Skills Competitions, and will compete in the National Work Skill Titles in Sydney in February next year.

The photograph of Mr Schuhmann, above, was taken by Mark Fergus.

# Science shows itself all live and sweaty



It was an all-singing, all-dancing show when Elle McFeast, star of the ABC's 'Live and Sweaty' television show, came to Canberra's Black Mountain site to record a television commercial for BIOTA 93.

The CSIRO open weekend is on April 3 and 4 next year, and features work from more than a dozen Divisions from around Australia as well as all the Canberra Divisions.

It's amazing just how much action can be packed into one 30-second commercial. Elle sang in the portable rain tower at the Division of Soils, was blown away by the wind tunnel at the Centre for Environmental Mechanics, and was attacked by the giant rhinoceros beetle at the Division of Entomology.

The scene where she was genetically engineered into 'someone quite different' had to be dropped — it would have taken too much time to flash

images of Paul Keating, Skippy the kangaroo, the Collingwood football team and Ita Buttrose up on screen to show what Elle might have become.

Elle had a quick eye when it came to spotting CSIRO talent waiting in the wings. She seized upon Soils' Neville Carrigy and Peter Hairsine and dressed them in yellow raincoats to accompany her 'Singing in the rain' number. (See photograph above.)

She was equally quick to corner eight white-coated scientists to flank her as she rose from behind a low brick wall to announce: 'CSIRO — where the science really happens'.

BIOTA co-ordinator Lina Nichele of the Division of Plant Industry said that Elle was chosen to do the commercial to emphasise the hands-on nature of many of the exhibits.

'Elle is an all-action girl, and she has special appeal to people in their mid-teens', she said. 'That's one of the groups CSIRO is particularly interested in targeting, to build up their interest in science as a possible career.'

Alan Barr, part-time organiser for BIOTA, expects the weekend to attract crowds of more than 30,000. He is available on 06-246-5240, or 5311 fax.

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## CSIRO research to feature at international grassland conference

More than a dozen CSIRO scientists will be presenting invited plenary papers at the International Grassland Congress to be held in New Zealand and Rockhampton next February.

Their topics will range from the latest genetic engineering breakthroughs to some likely effects of climate change.

Many more CSIRO scientists will also be displaying scientific papers in poster form at the Congress, chairing sessions and contributing to discussions.

The Congress is a major world event. With more than 1,000 internationally eminent scientists attending, it offers a rare chance to present some of the best of CSIRO research to the audience best qualified to appreciate it and often best placed to promote it throughout the world. The CSIRO

technologies will make to pasture science;

- the fragility of grassland ecosystems.

Dr Bob Clements, Chief of the CSIRO Division of Tropical Crops and Pastures, is Vice-Chairman of the Australian Organising Committee for the Congress. Dr Clements said the grassland ecosystems were important sources of sustenance for people around the world and were crucial to the livelihood of Australian graziers and farmers.

'Grassland science delivers big benefits to a range of users, from primary producers to tourist operators,' he said. 'However, further research is needed and the Congress can help to identify gaps that need to be filled.'

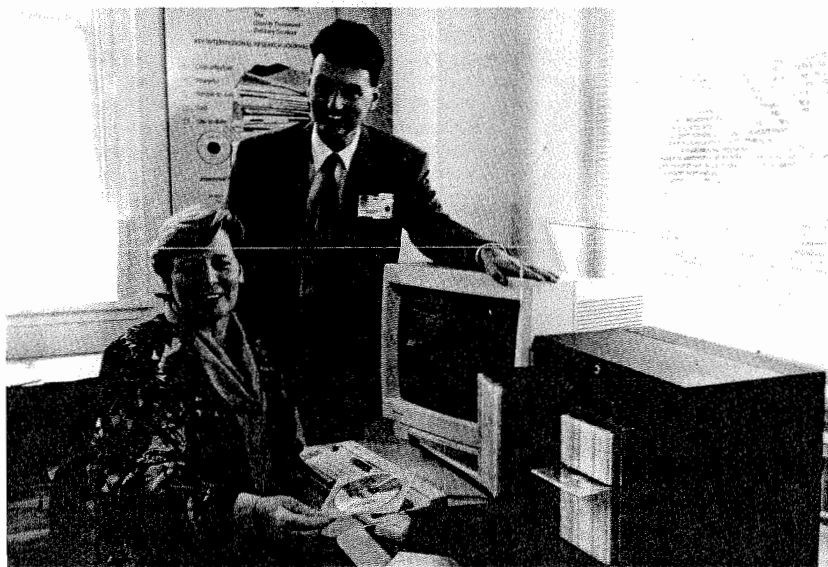
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Above, Dr Brian Tucker examines a book on aerobatics presented to him by the Division of Atmospheric Research as part of his retirement gift. Looking on are Dr John Stocker and his wife Joanne.

## Adonis plays the hits that make scientists smile



Acquisitions Librarian Philip Kent shows CSIRO Chairman Adrienne Clarke how to play the new ISB jukebox in Melbourne during her recent visit. The CD-ROM jukebox uses ADONIS software and holds up to 100 discs, each with more than 10,000 pages of articles and images.

If you don't believe libraries are changing, think again. A CSIRO library in Melbourne has just installed a jukebox.

Library Network Services, part of CSIRO's Information Services Branch (ISB), says the jukebox will hold up to 100 compact discs (CD-ROMs) containing the scientific 'hits' of the year.

The information product, known as ADONIS (wasn't he the Greek god of beautiful vegetables?), provides the full text of more than 430 top journals, mainly in the biomedical field, but also on chemistry, biochemistry, bioengineering and biotechnology. Each disc stores more than 10,000 pages of articles, including graphic images and

half-tones. The system produces high-quality copies of any selected article on a laser printer.

CSIRO is the first agency in Australia to operate ADONIS using a CD-ROM jukebox. Library Network Services currently has a complete set of discs for 1991 and 1992 to date, with a new disc arriving each week.

Along with CSIRO's 45 libraries, Library Network Services will test-run the product over the next 18 months to find out its full potential for providing CSIRO researchers with speedy and cost-effective access to core scientific literature.

The Organisation currently spends more than \$5 million a

year on scientific information in print form. ADONIS should reduce that cost, and at the same time provide a better service for scientists.

The Chairman of CSIRO, Professor Adrienne Clarke, took part in a demonstration of the new system during her recent visit to ISB.

The ADONIS trial is a co-operative effort between CSIRO and DA Information Services, an Australian commercial supplier of scientific and technical information.

If you want to know more, contact Kerry Cody on 03-418-7427 or Philip Kent on 03-418-7382. Or see your own Divisional librarian.

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## Brian Tucker retires

Dr Brian Tucker, one of CSIRO's longest-serving Chiefs, has retired. Dr Tucker held the position of Chief of the Division of Atmospheric Research since 1973.

Dr Tucker is one of Australia's most eminent atmospheric scientists, and has been instrumental in bringing major environmental issues, such as global warming, to the public's attention.

It has been one of his striking achievements to link the Division's research to the practical solution of specific environmental problems, urban and regional.

Speaking on Dr Tucker's formal retirement on October 29, CSIRO's Chief Executive John Stocker said, 'Australia can be proud of the fact that it is home to one of the world's foremost atmospheric research establishments. Brian Tucker has played a major role in shaping and building the Division. Morale is high, and the level of external funding clearly shows the strong support for the Division's activities.'

Dr Tucker is a member of the National Greenhouse Advisory Committee and the Standing Committee of the Australian and

New Zealand Environment and Conservation Council (ANZECC).

He was Chairman of the Latrobe Valley Airshed Study Steering Committee and a member of the Drought Policy Review Task Force. He recently completed a term as President of the International Association of Meteorology and Atmospheric Physics.

Originally from Wales, Dr Tucker went to Imperial College, London, for his PhD and came to Australia in 1965. He first joined CSIRO as head of a new computer modelling group.

Dr Tucker has been lively and vocal during his time as Chief, publishing and speaking not only in the scientific sphere, where he has many works to his credit, but also in the popular media, on the impact of science on society.

The Division's Assistant Chief since 1989, Dr Graeme Pearman, will now take over as Chief of Atmospheric Research.

## New CSIRO Fellows

Last year, as part of CSIRO's award restructure, a new scientific category was constructed, that of CSIRO Fellow. The idea of the new title and award is to allow outstanding bench scientists to stay with full-time research and yet still be eligible for the same rates of pay as those who move into research management.

The inaugural appointee to this level was Dr John Philip, since retired.

This year the Chief Executive has appointed two CSIRO Fellows, Mr Bill Trahar of the Division of Mineral and Process Engineering, and Dr Hugh Tyndale-Biscoe, Division of Wildlife and Ecology.

Dr Trahar's Fellowship is awarded in recognition of his profound and enduring contributions to both his science and his country. His work in areas of mineral processing is recognised as being of the highest intellectual order and as having led to a substantial increase in the profitability of the Australian mining industry and the Australian economy.

Dr Tyndale-Biscoe's Fellowship is in recognition of his scientific research and research leadership, regarded in the Australian and international scientific communities as pre-eminent. For 20 years he has been the foremost researcher in the field of the reproductive physiology of marsupials.

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