



Blanket on CSIRO's "Security" Science?

Peter Pockley probes what CSIRO is really doing to aid the government's agenda against terrorism.

Until now, defensive reactions and silence have followed in the year since CSIRO's Chief Executive, Dr Geoff Garrett, scored an own-goal on revealing to a Senate Estimates hearing some projects the civil research agency was undertaking with the Defence Science and Technology Organisation (DSTO). He concluded: "Most of our applications have a significant defence capability".

CSIRO's image was battered by headlines on CSIRO's involvement in "weapons research". The subeditors may have gone a bit far in linking CSIRO to weapons *per se*, but they reflected concerns about the new, shadowy course for the once-shining national icon.

The government scrambled for cover with a reactive denial, with the Science Minister's office overseeing and issuing a media statement under CSIRO's letter-

head (AS, April 2003, p45).

Since that debacle, CSIRO's push for a separate Flagship for "security" research has been shelved, and it has issued no statements or information on its "security" program. Nevertheless, the work proceeds quietly.

An internal memo revealed the secondment of Dr Rob Floyd from the Entomology Division to a new unit in the Department of Prime Minister & Cabinet "to coordinate science, engineering and technology (SET) support in the area of counter-terrorism. The SET Unit will review Australia's science, engineering and technology needs and capabilities, and develop strategies to enhance our national counter-terrorism preparedness."

Prime Minister John Howard's control marks CSIRO squarely as a participant in US President George Bush's "war on terrorism", with its

multifarious ramifications, but CSIRO seems to be playing this down.

In an interview last October, Garrett fielded questions on "security" thus: "Scientific organisations need to support government in the fight against terrorism and it is incumbent on us to respond to its national research priorities". [The government had defined "Secure Australia" as its fourth priority, but has refused to release documentation on its basis.]

On secrecy provisions covering CSIRO's work with DSTO, Garrett demurred: "There have been no changes in our normal day-to-day work other than confidential arrangements in the commercial space". Such claims may be put to the test since the Senate resolved that government departments and agencies could no longer refuse to answer questions on grounds of "commercial-in-confidence".

Garrett stumbled when asked if he knew that his rallying cry about CSIRO leading "Team Australia" (AS, May 2001, p14-15) stood in contrast with the title being used by Australian "defence" firms when touting for sales at a massive "arms fair" in London. He did not know of its use in this controversial area and acknowledged that CSIRO had not registered "Team Australia" as a brand or business name.

Later, Deputy Chief Executive Dr Ron Sandland wrote that there is a contract for each separate piece of work with DSTO. "There is no new arrangement with DSTO resulting from the focus on security, although there is ongoing dialogue," he said.

Requests for details were directed first to senior executive, Dr Warren King, then to Dr Annabelle Duncan, Chief of Molecular Science in Melbourne who is also "coordinator of security", and Dr Grant Griffiths, Deputy Chief of Telecommunications & Industrial Physics in Sydney who is also "CSIRO Account Manager for DSTO".

Both Duncan and Griffiths have been forthcoming. In written answers,

Duncan explains: "Security, in terms of protecting Australia, its people, live-stock, plants, environment, food, water and infrastructure, has always been an important aspect of the work of CSIRO. Our focus is in the civilian domain. The majority of the work has been in the area of protection from pests, weeds and diseases.

"Defence-related technologies *per se* are not a focus of CSIRO although some of our research (e.g. imaging systems, sub-surface radar) could have defence applications. We do, and have for many years, spent a considerable amount of money on security-related projects... We have also held a series of workshops with DSTO with the aim of enhancing collaboration across the two organisations."

According to Griffiths, a group in his Division working on micro-integrated circuits with DSTO "has had no restrictions placed on it". However, an ethics committee had been formed to look at surveillance work and "a couple of CSIRO scientists in another Division have declined to work in security-related areas".

Duncan gives another instance: "I am sure that you can imagine some of the ways in which a terrorist group could cause considerable damage to Australia, [and] would, in their effects, be similar to natural events. An obvious example would be a major disease outbreak. Its effects would potentially be the same, whether it was a natural outbreak or a deliberate infestation via a terrorist

attack. Regardless of the initiating event, there will be a requirement for rapid detection, identification, epidemiology, possibly quarantine if it involves animals, hospitalisation and maybe isolation and treatment if it involves humans and maybe rapid containment and destruction if it involves plants.

"Who develops the detection and identification tools? Who will be responsible for epidemiology, for looking at weather patterns to gauge spread, etc? How can spread be minimised? So, there is a wide range of technologies that are needed. Some exist, some need to be developed. Where are the gaps, and how can we plug them? That is part of the work of the SET unit.

"Many agencies would be involved in dealing with the outbreak; most would be civilian agencies, but not necessarily all. The boundaries between civilian and defence-related research can be quite blurred."

A fuzzy demarcation, indeed! Therein lie many contradictions in CSIRO's shift to this work.

Griffiths says: "We don't do a whole lot with DSTO but are trying to drum up more interaction. The total value is around only \$500,000 per year. There are about 50 very small contracts for things like sample analyses, use of equipment, and use of sites, while 4-5 large ones have wound down. Two of these have been on corrosion-proofing ships and developing a personal cooling vest for soldiers."

But the lure of US dollars and military influence is evident: "There is some potential in the US Technical Working Group in government for support of security-related R&D which might leverage funding from the US".

However, discussions off the record with research scientists reveal a strong push within Divisions for scientists to chase defence-related money. Atmospheric Research has a \$5 million program on weather forecasting with the Navy and DSTO. Seemingly far removed from developing better gun sights or missiles, this could be a matter of life and death for sailors in battle.

Although Duncan says that no decisions have yet been made for "diverting additional appropriation funding into the area", the (uncosted) time devoted to it inevitably detracts from a staffer's capacity to concentrate tightly on science.

CSIRO's chase for contracts for in this and other areas is diverting talent and resources from original research, gauged internationally by publication in leading journals. If CSIRO contributes anything truly significant to national defence it is highly unlikely to be published, let alone publicised ("Why tell the enemy?"), and its scientists will go unrecognised (like DSTO's).

The "great science" Garrett claims CSIRO still delivers to the nation is in danger of dilution and going unnoticed by the public that, heretofore, has applauded it.

Current and Recent CSIRO Projects on "Security"

- Diagnostics (human, animal and plant), including reference materials, extraction techniques and biosensor development
- Detoxification and bioremediation
- Biocides – fast-acting and residue-free fumigants
- Smart textiles (e.g. membranes that are breathable but impervious to large molecules in one direction)
- Security in food packaging
- Passive imaging systems
- Sub-surface radar
- Magnetic anomaly detection
- Acoustics and ultrasonics
- Machine vision, robotics
- Microtechnology and surface engineering for security devices
- Protective materials technologies
- Detection and recovery of water and airborne pathogens
- Transport security
- De-mining and in-field screening
- Data integration
- Data analysis
- Multivariate and complex systems models
- Environmental and economic risk assessment

Source: Dr Annabelle Duncan, CSIRO coordinator