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## From the President

RACI  
REPORTER

### Science and security

Each one of us will have striking memories of the terrorist attack on the World Trade Center in New York – 9/11. We may have different opinions as to why this happened and how long it was in coming but it clearly marked the era of international terrorism – international in reach as well as news coverage. The Iraq war and the Bali bombings have since brought an awareness that this is a problem that directly affects Australians.

The methods used by terrorists to inflict damage have been relatively straightforward to date, most often the delivery of large quantities of explosive to a politically sensitive target. The use of suicide bombers restricts the amount of explosive that can be delivered, but in a way raises the horror. The very act of a suicide attack offends so deeply the notion of what is 'acceptable' in conflict that it achieves a higher political purpose than a conventional attack. That is, until we are desensitised by repetition and begin to accept it as part of the way we must live. This leads to the search by terrorists for new and more shocking acts.

Science and technology have a role in this whole area. Most directly this is by way of the weaponising, as it is termed, of otherwise useful materials but extends to the creation of new chemical or biological agents. Chemists are well aware of this weaponisation due to the history of the use of chemical weapons reaching back to World War I. It always seemed to me that chemical weapons must be harder to manufacture and deliver than explosives but again the impact on the community is likely to be different and that is part of the intent.

What concerns the majority of scientists is of course the use of science and technology to counter-terrorism. Counter-terrorism is often divided into four stages: prevention, detection, response and recovery. Perhaps the area most open to chemistry in this area is in the detection of a chemical or biological event, although science clearly plays a role in the destruction or neutralisation of an agent as well. The technical challenges in

this are significant. The need is often for highly sensitive rapid field-based analysis. Much of our current thinking is aimed at taking a sample back to a highly structured lab for precise, accurate measurements. Two different ways of working! There are already advances in this area, driven in many cases by crime-related forensic science. Imagine if the field analyst could use a handheld GCMS, UV or IR – or something that gave the same degree of analytical power.

I understand that there are air monitoring stations throughout the USA that rely on manual collection and processing of the media – hardly conducive to a rapid response! So handling the information is a critical part of the challenge; the confluence of chemistry and computing power is needed here.

It may be that the most important identification issue is that of personal identity fraud. Stolen or false identities underpin most terrorist events – the hijackers in New York relied on a trail of false documents. Much money raised by groups supporting terrorism is raised by counterfeit or other fraudulent transactions. Science and technology has an obvious role here – biometric identification is on the way with a need to authenticate documents and link the document to the holder.

The federal government has responded to the need to use Australia's science and technology base in countering terrorism. The Science and Engineering Unit (SET) of the National Security Division has been established within the Department of Prime Minister and Cabinet. The unit, staffed by senior secondees from public and research agencies and led by Dr Lynn Booth from DSTO, is engaging with the Australian scientific community at all levels to identify the Australian needs in this area and how they can best be provided for. There is funding available to seed research efforts through the SET unit and the unit will act as a link for industry, academic and government research in the area. I think we will see other initiatives in the near future – terrorism is not a short-term problem. Chemistry and chemists have a role in overcoming a new problem.

### Membership benefits: who to contact

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