After two decades of research the first wave of nanotechnology consumer products are entering the marketplace in applications as diverse as catalysts, surface treatments for glass, cosmetics and drug delivery. But the properties that make them attractive to industry may also have unforeseen consequences. That worries Amanda Barnard, a physicist at The University of Melbourne.

“Many materials that are normally inactive—gold and silver, for example—become biologically active when the particles are just a few nanometres in size. So, if we are creating these new particles we need to understand how they will behave in the environment.”

Amanda believes she can create a theoretical framework that will allow the risk of nanoparticles to be determined in the computer—before the particle has even been made. She will use her L’Oréal Australia For Women in Science Fellowship to develop new computational tools to predict the behaviour of nanoparticles in the environment.

Amanda first trained and worked as a gemmologist—looking in particular at diamonds and the difference between synthetic and natural diamonds. The experience fuelled her interest in physics and the rules that guide the creation of materials. After obtaining a PhD in physics from RMIT, she went first to the Argonne National Laboratory near Chicago, then to Oxford where she investigated the safety of nanoparticles and wrote a commentary on nano-hazards for Nature Materials.

She returned to Australia in 2008 to take up a Future Generation Fellowship at The University of Melbourne. Amanda says that while nanoparticles are manufactured, stored and used under carefully controlled conditions, it’s what happens to them when they are eventually discarded into landfill and waterways, under anything but controlled conditions, that is the big question.

“Many man-made nanoparticles do not exist in nature. So we don’t know their long term effects or how they will interact with living organisms,” she says. But with the rapid pace of development of new nanoparticles, there are just too many to physically test under all likely conditions.

“I’m planning to build theoretical models to try to predict how the particles will behave in a wide range of chemical environments. I hope my work will help make nanoparticles...
safer,” Amanda says.

Amanda will start with a theoretical model to predict the stability of nanoparticles in the presence of water. She’ll initially focus on metal nanoparticles containing platinum and palladium, which are showing great promise as catalysts to increase fuel efficiency.

Her theoretical model will look at the effects of temperature, pressure and particle size and shape on the behaviour of nanoparticles, especially their stability. It builds on past work she has done to develop a theory relating the size and shape of a wide range of different nanostructures to their stability.

Amanda will access the powerful computers she needs through the Australian Partnership for Advanced Computing (APAC) national facility and the Victorian Partnership for Advance computing (VPAC). Her L’Oréal Fellowship will be used to purchase the software she needs to generate inputs for her models and analyse the resulting data.

Amanda hopes that her theoretical models will prove useful to nanotechnology researchers worldwide.

“We have a wonderful opportunity to learn from history here and not make the same mistakes we’ve made in the past with asbestos and DDT.”

“Over the long term I hope that researchers around the world will be able to use my tools to predict the stability of their nanoparticles before they make them,” she says.

Source: Science in Public

QANTAS safety review actions

CASA wants Qantas to make a range of improvements to the way it manages and delivers aircraft maintenance following a special review carried out by the Civil Aviation Safety Authority.

CASA has told the airline to produce a plan to address deficiencies in meeting some of its own maintenance performance targets.

At the same time Qantas will examine whether the existing lines of authority and control over maintenance within the airline are delivering the best possible outcomes.

While these actions are under way CASA will be conducting two additional intensive audits of Qantas.

The first will be a full maintenance audit of one aircraft of each major aircraft type in the Qantas fleet – a 747-400, 737-400 and 767-300. This will involve checking all maintenance documentation for each of these aircraft to see it has been completed, as

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Exclusive CEO Videos

Many members have asked for access to some of the video from Day One of Safety In Action Conference 2008. This day was devoted to prominent company directors and CEOs talking about safety at the board level.

For a limited time only, videos of four speakers will be made available exclusively at

www.siaconference.com.au

but only to those who opt-in for regular Safety In Action conference updates. This process begins by notifying us of your contact details by going to http://www.siaconference.com.au/content/contact/Contact_us and asking to be kept up to date.

The videos feature excerpts of the presentations of

Dr Ziggy Switkowski
Peter McMorrow

Glenn Henson
Colin Blair
End of Year Function
Early December
Christmas Cocktail Party or Dinner
Event details and date to be confirmed

SIA Web Site
For those that haven’t noticed the SIA web site has a fresh face. The new www.sia.org.au web site has taken around 8 months to redevelop, following an extensive review of the old site.
Together with our partners from DDSN Interactive (http://www.ddsn.com/) the SIA have delivered a substantially improved web site, with enhanced capabilities, when compared to the old site.
Amongst the key new features are:
- Improved organisation of the web pages, based on user feedback
- Ability for new members to sign-up or renew their memberships online
- Customised Division pages for you to see what’s relevant to your own division, including upcoming events and news
- Special Interest Group information including custom user forums

A number of new SIA members have already signed up online. Over the coming weeks we will publish some statistics on just how many people are using the new site, as well as detailed analysis of web site visits (eg. duration, pages accessed etc.).

Some upcoming enhancements to the current web site in the coming weeks include:
- Online events booking service
- Surveys module for online member surveys
- CPA Logbook System
- Find a Safety Professional link

Member Passwords
Due to a security flaw with how member passwords worked on the old site, members need to request a new password in order to access the “Members Only” content on the new

Continued from page 2

well as physically examining the aircraft on the ground.

The second audit will focus on the effectiveness of Qantas maintenance systems in managing and implementing airworthiness directives. This will identify any weaknesses in Qantas maintenance systems in relation to managing the ongoing airworthiness of its aircraft.

CASA has also called on Qantas to report on how the recent failures to fully comply with airworthiness directive requirements have been addressed.

CASA’s deputy chief executive officer Operations, Mick Quinn, says this comprehensive package of action is underway to address emerging problems within Qantas.

“CASA has looked carefully at the Qantas maintenance systems and performance and uncovered signs of emerging problems,” Mr Quinn says. “The review found maintenance performance within Qantas is showing some adverse trends and is now below the airline’s own benchmarks.

“By taking action now future safety problems will be avoided. The wide-ranging package of actions CASA has initiated will prevent any downward trend in Qantas maintenance performance.

“The review did not find any direct links between recent safety incidents, including the 747-400 oxygen bottle failure near Manila, or any increase in the rate of incidents. They were unrelated events - there was no apparent common cause. There has been no increase in the rate of incidents and over more than a year the number of monthly air safety incident reports was about the same.

“Qantas has fully co-operated with CASA at every stage of this review and provided complete access to key personnel, data and systems. The airline is to be commended for its proactive approach to this safety review.

“CASA is confident Qantas will act quickly and appropriately to address the issues and this will ensure Australians can continue to have full confidence in the airline.”

Miners’ safety at risk from harmonisation of OH&S laws
29 August, 2008

The CFMEU Mining union issued a statement today:

The country’s only service capable of rescuing miners in the event of a disaster, the Mine Rescue Service, is under threat following the announcement of the Federal Government’s plans to harmonise occupational health and safety laws.

The Union is calling for mining safety legislation to be exempt from the umbrella OH&S

Safety In Action - Call for Papers

On behalf of the Safety Institute of Australia (Vic Division) Inc and the Safety In Action Organising Committee, we would like to invite you to submit your application to present at the 12th annual Safety in Action Conference, to be held 31 March - 2 April 2009 at the Melbourne Convention Centre. This well-established conference attracts over 1,000 health and safety personnel from a wide range of industries.

Download Call for Papers Application Information

Deadline: Friday 26 September

Note: successful applicants are required to submit a full paper in December 2008

If you have any queries, contact the Conference Managers on email safetyconference@aec.net.au or tel 03 9654 7773.

Kind Regards

The Safety in Action Conference Team
lacks proposed by the Federal Government, saying the industry’s safety requirements are too unique to be covered under umbrella legislation.

“The safety of the country’s 136,500 miners will be severely compromised if occupational health and safety laws are harmonised,” CFMEU Mining national vice-president Andrew Vickers said.

“Without specific mine safety legislation, essential safety measures like the Mine Rescue Service could cease to exist.

“Currently industry is required to have a team trained specifically in mine safety on site at all times, however if OH&S laws are harmonised there will be no legislation to ensure industry compliance.

“Unique workplaces need unique laws. There are obviously risks unique to the mining industry and it is critical special provisions are in place to control those risks. It’s ridiculous that an office in the city would have the same safety laws as an underground mine.”

The harmonisation of the laws could see the mining specific safety regulations Queensland, New South Wales and Western Australia already have in place removed.

“The mining industry is one of our most dangerous industries, but we have worked hard to ensure comprehensive safety regulations are in place to minimise the danger to workers. The removal of those specific regulations would undo years of hard work and put lives at risk,” he said.

Other mining safety legislation likely to be lost or watered down with the harmonization of OH&S laws include:

- The requirement to appoint a specific manager, with specific competencies at each underground coal mine.
- The requirement to appoint Deputies to have control of activities in an explosion risk zone in an underground mine.
- The requirement to appoint a Ventilation Officer to be in charge of ventilation in an underground mine.
- The creation and functions of a Coal Mining Safety and Health Advisory Council.

Source: CFMEU

Jockeys Take Stand For Safety

The Australian Jockeys Association will today launch its ‘Racing for our Lives’ campaign, calling on the racing industry to provide greater protection for its key asset – Australia’s 860 jockeys.

The AJA is calling for a one per cent increase in the prize money pool to be put into safeguarding the country’s riders.

“Australian jockeys are among the lowest paid in the world. They ride because they love the sport but they deserve basic protections,” Paul Innes, CEO of the Australian

Visions Conference 2008

16th Annual OHS Conference
12 - 14 November 2008
Cairns International Hotel, Cairn Australia

Now in its 16th year, Visions hosts a variety of local, national and international speakers. The conference is considered by OHS professionals as Queensland’s premiere safety event and attracts up to 300 delegates each year. More information is available at

www.visions.org.au
Jockeys Association said.

“That’s why we are asking for a small proportion of the racing industry’s prize pool to be set aside for the jockeys who put their lives on the line when they saddle up,” he said.

“Under our plan, one per cent of race money would be directed to the AJA. This money would be used to:

• cover jockeys’ compulsory Public Liability premiums;
• fund a national Personal Accident Scheme for jockeys;
• support jockeys and their families in financial hardship due to death, illness and injury through the National Jockeys’ Trust; and
• fund other welfare programs.

“Australian jockeys are taking this issue very seriously. It would be a shame to see it disrupt something like the Spring Carnival.

“Horse racing is a dangerous industry - 89 per cent of jockeys have suffered at least one fall during their career that requires medical attention – however most jockeys are not highly paid. In fact more than 50 per cent of jockeys earn less than $50,000 per year.

“In the past nine years, jockey numbers have declined 43 per cent. If jockeys are not provided basic protections more of them will leave the sport, putting the ongoing viability of the industry at risk.

“Behind the glamour of the racing industry there is a side the general public don’t see. Our jockeys put their lives on the line each time they race. They shouldn’t also be expected to risk financial ruin each time they race.”

Source: Australian Jockeys Association

McCains, fined again for workplace safety breaches. 29 August 2008

McCain Foods (Australia) Pty. Ltd. were today convicted and fined $75000, plus costs, after pleading guilty to workplace health and safety breaches, this time at its Ballarat plant.

The company pleaded guilty to one charge laid under the Occupational Health and Safety Act 2004 at the Ballarat Magistrates Court.

The court was told that On 27 September 2006, a maintenance mechanic employed by the company, was injured when attempting to repair a pizza crust shredder.

The shredder started unexpectedly whilst the worker was working on it. The worker had one finger struck by the rotating blades, causing skin and flesh to be removed. He was taken by ambulance to the Ballarat hospital where he remained for three days.


Magistrate Stewart told the court that it was the responsibility of employers to ensure employees are not subject to risk in the workplace.

Ross Pilkington, Director of Manufacturing, Logistics and Agriculture Program at WorkSafe Victoria said that it was crucial that all machinery in Victorian workplaces have adequate guarding in place and that all employees are trained and properly supervised.

“We have had laws about guarding machinery in this country for more than one hundred years and ignorance is clearly no excuse. All safety switches and processes for isolating machinery need to be clearly identified.”

Source: WorkSafe Victoria

Note from the Editor

Dear SIA Fellows

Due to a catastrophic IT backup problem most of the emails that you sent me in response to the questionnaire I emailed over a month ago have disappeared. One would think that a primary and secondary backup system would be sufficient but both systems failed within minutes of each other and file recovery has been patchy.

Can I please impose on you to resend your responses to me at kjones@bia.org.au

Those responses already published have generated considerable interest.
Million dollar winners and all in the name of safety  | September 2008

Mackay: There are now a million reasons for Ergon Energy employees to work safely in their job - not only are they helping themselves, they’re helping the community, Mines and Energy Minister Geoff Wilson said today.

Minister Wilson, in Mackay this weekend with the Premier, her Cabinet and the state’s senior public servants for Community Cabinet, handed over a cheque to local community groups.

“It’s great to be here to listen to Queenslanders’ concerns on their own home turf. It’s also great to be able to help out worthwhile community groups,” Mr Wilson said.

The cheque handover came about through Ergon’s Power Aid initiative, where staff raise money for local community groups by working safely.

“Staff teams earn points for safe work practices. Ergon converts the points into dollars and the staff members donate the dollars to organisations like Dragons Abreast Mackay, a breast cancer support group.

“Today is a milestone for Power Aid. It’s delivered more than a million dollars to community groups around the state.

“I take my hat off to Ergon workers. It’s great to see their efforts to maintain a safe workforce bring tangible benefits to local community groups.

Some of the Mackay community groups that have been helped over the four years of Power Aid include Camp Quality, the Dumbleton Rural Fire Brigade, KidsCan, Dragons Abreast Mackay, Meals on Wheels - Mackay and Proserpine, Make-A-Wish Foundation, Central Queensland Rescue Helicopter, Angel Flight, Prostate Cancer Foundation, the Royal Flying Doctor Service and the Mackay Disability Enhancement Fund.

“More than $340,000 has been handed out across Ergon Energy’s Central region,” Mr Wilson said.

Member for Mackay, Tim Mulherin said the main aim of Power Aid was to ensure that staff were safe at work and would return home safely to their families and friends.

“It’s heartening and rewarding to see the good that can come out of something like this,” Mr Mulherin said.

Source: Q’ld Minister for Mines and Energy