

Best of breed...  
Classy dog  
kennels open  
page two

Polished performer...  
Futuristic lab  
makes the grade  
pages four and five

A great example...  
Memorable year  
for Academy  
page six

ISSUE 5/SUMMER 09



the newspaper for AWE's neighbours

# connect



Trophies galore... with AWE's RoSPA awards are, left to right, Arthur Muller, Sue Austin, Heather Young, Robert Cable, Amy Sahota and Gareth Beard

## Nine-time winners

**AWE is celebrating** its ninth consecutive success at the Royal Society for the Prevention of Accidents (RoSPA) Awards.

The company won a range of major health, safety and environmental awards and received several commendations.

This is also the second year in a row in which AWE has won both the National Defence Sector Award and the International Dilmun Environmental Award.

There were also commendations for the company under the RoSPA training (health and safety) category and the managing occupational road risk (MORR) category.

This was the first time AWE had put itself forward for either of these awards.

Heather Young, AWE's director of Assurance, said: "We were delighted

to win these awards – especially as it is the ninth successive year AWE has been recognised by RoSPA.

This underscores our continuing commitment to improve our health and safety, as well as our environmental record across all our sites.

"Our aim is to achieve world-class standards in safety and environmental management and these awards reflect that aim."

There was also success for AWE's construction management department which was given the RoSPA gold award for construction-engineering occupational health and safety.

Mike Ryan, head of construction, said: "Following progression through bronze and silver, this is the third year running we have been awarded a gold award for construction

occupational health and safety.

"This award is recognition for all those involved in making AWE a safe place to work."

David Rawlins, RoSPA awards manager, said: "AWE has shown a commitment to protecting the health and well-being of its employees and other people.

"Entering the RoSPA Awards reinforces the message that good health and safety is good for business and clearly demonstrates an organisation's dedication to improving performance in this crucial area."

There was also jubilation on the night for AWE's contract partners. Emcor, AWE's on-site facilities partner, won the gold award for occupational safety, and Hertel won the gold award for construction-engineering.



### New man at the top

**AWE has a new MD.** Robin McGill, pictured above, takes over from Don Cook, who is returning to the USA after three-and-a-half years in charge. Robin was previously chief executive of the Institution of Engineering and Technology.

● Full story page 7



# Classy kennels open

**Ministry of Defence** Police (MDP) dogs and handlers are enjoying improved accommodation thanks to new kennel facilities at AWE's Burghfield site.

The Canine Management Centre can house up to 20 dogs, each with its own heated sleeping area and run, and humans haven't been forgotten – the building also offers modern facilities for the handlers.

"The old kennel compound was dated and cramped and the dogs were in old-fashioned single wooden kennels," said Sergeant Andrew Whitlam, who was previously a police dog handler for 12 years. "I've seen many dog kennels in my time, but these are by far the best facilities I've come across."

Andrew, who joined the Burghfield dog section in March 2008 following a post at the Ministry of Defence (MOD) in Whitehall, is delighted with the long-awaited new compound.

The building contains two sections – kennels and facility. There are two kitchens – one prepares dog food while the other caters for the MDP officers – plus a vet treatment room, isolation pens, dog showering facilities, male/female changing and shower rooms, offices and rest rooms.

Each dog has its own sleeping quarters with a raised bed and an outside run with a smooth float concrete floor.

"This is much better for the dogs' paw pads as it's not abrasive like normal concrete, plus it's easy to clean and wash down," said Andrew.

The compound also incorporates a specially-designed training and agility ground and two large enclosed runs where the dogs can exercise freely.



Settling in... outside the new kennels are Andrew Chinn with Gina, left, and Graham Trayling with Flynn

The Burghfield MDP team has 12 dogs – 10 of which live at the kennels. Two, Bertie the sniffer dog and tactical firearms support dog Hawk, are home kennelled with their handlers.

The kennels were made for AWE by Sherlock, one of the country's leading kennel manufacturers, whose customers include the

RSPCA, while the project contractors Edmund Nuttall won AWE's Contractor of the Year award for its health and safety performance.

"The dogs were a little bit anxious at first – just like humans are when they move house – but it didn't take long for them to settle down and now they love it," said Andrew.

## Dog and handler are true partners

**A partnership for life.** That's how Burghfield's dog training officer Graham Trayling describes the relationship between an MDP dog and his handler. "The dog and the handler act as a united team – there's such a strong bond between them," said Graham.

"An MDP handler and his dog will be together for the dog's working life – which can be up to seven years. They come as a package – if the handler gets posted somewhere else, the dog

goes with him. It's a real partnership."

Graham, who has over 30 years' experience in the Metropolitan Police with 25 of those as a dog handler, says that all the MDP dogs on AWE sites are trained to police standards.

"Many of the dogs are sourced and part-trained by the Army, then they come to AWE and we complete the training – much of which is unique to AWE as we have such an unusual environment," said Graham. "We have a lot of concrete here, so the dogs need to learn to

track on concrete whereas they may have originally been taught to do so on grass. Also, there are unusual facilities to search – huge industrial buildings – so we have to train them for that environment. It's challenging but exciting – we're developing new techniques and moving dog training forward for the whole country."

To become an MDP dog handler, standard police training is undertaken for two years followed by two weeks of basic and nine weeks of specialist police dog training.



Teamwork... a handler walks with Bella

## Laser retires as the focus switches to new star Orion

One of AWE's most ground-breaking research facilities has come to the end of its life after 30 years in operation. The HELEN high-powered laser fired its last shot earlier this year, with efforts now focused on Orion – the company's next generation laser facility.

HELEN, which stands for High Energy Laser Embodying Neodymium, enabled AWE scientists to replicate in the laboratory the physical conditions at the heart of a nuclear detonation, on a minute scale and over a tiny fraction of a second.

Officially opened by the Queen in 1979, HELEN has contributed enormously to AWE's plasma physics experimental programme.

Soon after the Royal visit, AWRE News published a commemorative issue which included a speech given by the Queen on June 29, 1979 – and it still rings true to this day.

She said: "It is impossible to exaggerate the importance of the work carried out at this establishment to our security and the preservation of peace. If a deterrent is to deter, and if it is to be credible, the highest standard of science and engineering is required in the design and development of weapons."



Royal moment... the Queen officially opened HELEN in 1979



Royal memories... AWE employees Avril James, Phil Young and Jennie Day look at pictures of the Queen's visit in 1979. All three were there on the day and are still working at AWE

"This high-powered laser facility will make possible an important research programme for scientists and engineers."

Three decades on, the same can be said for the Orion laser – the future of AWE's research capability. Don Cook, AWE's managing director at the time of HELEN's closure, said: "Since it was opened, HELEN has shown a strong list of enviable accomplishments. It has underpinned the UK's nuclear deterrence programme."

"When we reflect 30 years from now, I am sure we will say that Orion was built on the shoulders of HELEN and will be seen as an AWE achievement with international acclaim."

"We would be without Orion if it were not for HELEN. I would like to show my utmost appreciation and gratitude to all the workers during the laser's remarkable lifetime."

Tom Bett, who has been involved with HELEN from the start and is now group leader

for operations within the plasma physics department, says that HELEN's success has been a result of the efforts of hundreds of people over its 30-year life. "It's interesting to think that some of the team working on HELEN now were not even born when the laser opened," said Tom.

The laser system fired its last shot in April, bringing the total number of target shots since it came into operation to 7,940.

In 2007, HELEN smashed its previous annual record of target shots (458 in 1984), by firing 672 successful target shots in the year.

The closure of HELEN sees the end of one era and the beginning of another. But HELEN will not be forgotten – in fact, some of her parts will be recycled and reused in other facilities. The HELEN team will now be assigned to Orion, with their skills and expertise focused on the next generation laser system.

## Trio star at the Commons

**Three young** AWE scientists represented the company at an exhibition and reception at the House of Commons.

It was held by SET for BRITAIN, which aims to encourage and promote Britain's early-stage and early-career research scientists, engineers and technologists.

The three – among 180 young people selected from 600 UK submissions – were invited to present posters in the exhibition, held as part of National Science and Engineering Week.

They were Lindsay Cox, 25, research and development scientist; Peter Beavis, 29, an organic materials scientist; and

Anna Walmsley, 24, a materials scientist.

Lindsay's poster, exhibited in the physical sciences session, highlighted the development of remote detection of illicitly-trafficked nuclear material.

She said: "It was a real honour to represent AWE and a welcome opportunity to raise the company's profile. It was also a valuable networking opportunity."

Lindsay joined AWE on the graduate training scheme in 2005 after completing her BSc degree in physics with medical physics at the University of Cardiff.

Peter, who joined AWE a year ago, presented a poster in the

same session as Lindsay on nanomodification of poly(siloxane) polymers and foams for thermal and radiation stable materials.

"I have been collaborating with Bristol University on a project to measure the effect that nanofiller molecules have on the free volume between polymer chains at the molecular scale using a technique called positron annihilation lifetime spectroscopy," he said.

Anna also enjoyed the chance to represent AWE externally and meet other exhibitors and visitors.

"The event was a great chance to meet other young researchers enthusiastic in their field," she

said. Anna came to AWE on the graduate training scheme two years ago after completing her BSc (Hons) degree in materials science at the University of Birmingham.

Her poster – in the engineering session – was entitled "Syntactic foam: building for the future, not machining in the past".

"It describes a programme of work looking into the rapid manufacture of syntactic foams," she said.

"We have produced a novel syntactic foam (a rigid closed cell foam) using a selective laser sintering technique which drastically reduces current production time and costs."



## Modelling saves time and money

An innovative model-making process used for the first time at AWE could help save the company around £1 million, and two months' building time, on the new High Explosives Fabrication Facility at Aldermaston – formerly shortened to HEFF but now known as Circinus.

It involved the production by the rapid prototyping department of a small model of a section of the steel reinforcement bars that will go inside the concrete structure of the finished building. The model was then used by the construction contractor Kier Construction Ltd as an aid to create a full-size mock-up of the reinforcement to allow it to test different construction methods to improve safety and optimise installation. The technology has been so successful, it is now likely to be utilised in a number of other construction projects at AWE to assist in visualising technically complex aspects before installation.

Bob Cross, facility manager (construction), explained that the small model – made of glass-filled polyamide and measuring around 47cms wide by 33cms deep and 28cms tall – took the rapid prototyping department 38 hours to make. "Initially, the department was given design data in a format that they couldn't use, so it involved three to four weeks' work to translate this data into software they could use," said Bob.

Mike Ryan, head of construction, added: "The completed model was handed over to the contractors last October. They then spent three weeks building the full-size mock-up at an off-site location – it was about seven metres wide, five metres deep and just over two metres tall.

"As we are going into the construction of a very technically challenging building, the mock-up has allowed the contractors to trial different methods of installing the reinforcement before the actual work starts later this year.

"The whole process has allowed for quicker and safer methods of construction, as well as identifying that 34 per cent of the designed reinforcement required some minor modifications. If that had to be rectified during actual construction, it could have cost around £1 million and up to two months extra on the Circinus construction programme."

# Futuristic lab makes the grade

Staff responsible for AWE's Orion project were rewarded for their hard work and futuristic thinking when the company achieved an "excellent" BREEAM (Building Research Establishment Environmental Assessment Method) rating for its environmentally-friendly design.

The Orion laser project will deliver a modern laboratory to allow AWE scientists to recreate on a small, controlled scale the extreme states of matter found during the explosion of a nuclear warhead.

Daryl Landeg, AWE's director of Research and Applied Science, said: "Orion is a visionary project on many levels. The science innovation of combining ultra-short laser pulses with more typical long-pulse beam lines means we will be able to access truly unique and extreme conditions.

"This supports our core mission, but is also of great interest to more fundamental research into astrophysics and fusion energy. The bold architecture is both functional and attractive and the building is an icon for our high-quality science.

"Finally, the project is forward looking in sustainability terms and we are delighted to have been awarded a BREEAM excellent rating by the Buildings Research

Establishment."

The rating was achieved in various ways including:

- installing a rain-water harvesting system and using water-efficient fittings
- using condensing boilers and heat exchangers
- through construction management – using best practice in terms of prevention of water and air pollution.

Martin Townsend, director of BREEAM, said: "The Orion facility is exceptional, not just in achieving a BREEAM excellent rating, but its totally unique design means AWE has a truly 21st century building as part of the ongoing redevelopment of the site."

All building on the AWE sites, which are owned by the Ministry of Defence, is required to be completed to BREEAM standards in line with Government policy.



## Planners give the go-ahead for key Mensa facility

Planning approval has been granted for Mensa, the replacement warhead assembly and disassembly facility, to be built within AWE's Burghfield site.

The development will replace the existing facilities – including the "gravel gerties" built up to 50 years ago – with a facility which will incorporate modern environmental and safety standards.

Located at the centre of the Burghfield site, the new development will carry out the same work currently undertaken in the existing assembly and disassembly facilities.

This includes the final assembly of warheads required for the UK nuclear deterrent, maintenance and the disassembling of warheads when they are taken out of service. Mensa will comprise a main process building, approximately 130 metres long by 112 metres wide, a support building and a plant building.

Mensa is a key element of AWE's continued investment in its site and facilities and plays an important part in the company's long-term development.

Andrew Jupp, AWE's director Infrastructure, said: "The planning approval is very good news. Our thanks go to the many people across AWE who have worked together in a real One Company effort to ensure success."

Operations in the replacement assembly and disassembly facility will continue to be regulated by the Health and Safety Executive's Nuclear Installations Inspectorate and Hazardous Installations Directorate, as well as the Ministry of Defence Nuclear Weapons Regulator.



Key element... a model of the Mensa facility

## Companies aid carbon cut drive

A special "green" event, organised by AWE and Vodafone, brought together key businesses to look at energy efficiency and waste recycling.

The networking event promoted the ideals of improving energy efficiency and waste recycling, plus encouraging biodiversity and local food generation.

Delegates from the local companies were encouraged to make a commitment to these ideals, the progress of which will be monitored by West Berkshire Council.

"The aim of this greener partnership is to record and reduce the carbon footprint of West Berkshire as a whole," said Paul Dean from AWE's environment team, who helped to co-ordinate the event. "Together we can make West Berkshire a better place to live and work and forums like this can only help to support and enhance this view – for the overall benefit of the community."

The West Berkshire Greener Business Network aims to promote a reduction in the region's carbon footprint by targeting the retail, business, industrial and agricultural sectors. The evening event at the Regency Park Hotel in Thatcham closed with a Question Time style event.

The panel included: Ian Vickrage, president of Thames Valley Chamber of Commerce and managing director of Imago Micro Group, in Thatcham; Dr Keith Richards, managing director of Thames Valley Energy in Newbury; Anna Powles, national environmental management systems manager for Vodafone UK; and Nick Carter, chief executive of West Berkshire Council.

A raffle raised £355 for AWE's charities of the year – Bliss, which supports families of babies born too early or who are sick, and the Basingstoke Advocacy Scheme.

● For more information about the WBGBN email WBGBN@tiscali.co.uk

Polished... Rob Chandler cleaning the outside of the target chamber and, left, Orion under construction



Pioneer... electrical maintenance fitter Gary Jones



## Gary is region's best

A second-year electrical apprentice from AWE has been recognised for his hard work by the National Skills Academy Nuclear and Cogent Sector Skills Council.

Gary Jones won the Regional Apprentice of the Year for the Southeast/East and was one of just five finalists from around the country to attend the awards ceremony in Manchester.

The 33-year-old, who is an electrical maintenance fitter, said: "I have put in a lot of hard work at AWE so it's nice to be recognised."

AWE's Apprentice Academy's technical and craft training manager Marcus Hutchings, who attended the awards dinner with Gary, said: "He has put in a great deal of effort during his apprenticeship and, with the additional work he does for charity, he is a great ambassador for the company."

Before joining AWE, Gary spent two years as a supervisor with Winchester churches' nightshelter. He still gives his time as a volunteer, travelling regularly to Winchester to help the local homeless. He is pioneering a scheme at AWE to enable apprentices to participate in voluntary work. "I know from personal experience that small charities often need people's time rather than their money," he said.

# AWE 'a great example'

AWE's Apprentice Academy crowned a memorable 12 months when the company was named Employer of the Year at the Learning and Skills Council's South East Awards.

AWE picked up the accolade in the larger employer category for its apprenticeship scheme.

AWE's technical and craft training manager Marcus Hutchings said: "This is the icing on the cake following a fantastic 12 months – which has included the award of Beacon status and achievement of outstanding provision at Ofsted inspection. Recognition of our excellence in this way is a fantastic reward for the hard work of so many people within the company."

The regional director of LSC South East Marinos Paphitis said: "This is a company making optimum use of apprenticeships and setting a wonderful example to any employer."

AWE has been offering apprenticeships for more than 50 years and currently employs close to 500 former apprentices in managerial and supervisory roles. It is a pleasure to be able to acknowledge a company that has done so much to promote apprenticeships and boost the skills of our regional workforce."

The academy received Beacon status in January from the Learning and Skills Improvement Service (LSIS) – the hallmark of a standard of excellence in learning providers.

"AWE is one of only 34 work-based learning providers across the UK to have been assessed at this level," said Marcus Hutchings.

In 2008, the scheme was assessed as "outstanding" by an Ofsted inspection – a level only reached by six per cent of training providers.

The academy has also been approved as an assessment centre for the Laboratory and Associated Technical Activities (LATA) NVQ qualifications.

Ivan Mactaggart, directorate training manager, Research and Applied Science, described the news as tangible evidence of AWE's commitment to its laboratory technicians. "AWE values the work they do and now they will have an opportunity to work towards a nationally-recognised qualification," he said.



Job well done... with the Beacon award are, left to right, Chris Mason, Marcus Hutchings and Paul Gardiner



Pleasantly surprised... Robin McGill, left, and Don Cook

## Professional set-up impresses new MD

After almost three-and-a-half years at the helm of AWE plc, Don Cook has said farewell to his role as managing director and is returning to the USA.

He is succeeded by Robin McGill – previously chief executive of the Institution of Engineering and Technology and, before that, managing director of BP Grangemouth.

Don says he can be satisfied with a job well done – although, in his words, he isn't responsible for the achievements made in the past 42 months – the accomplishments have been made by the people of AWE.

"I've been involved with AWE for over 30 years and I'm convinced that the past three years have seen more change, growth and activity than at any other time in AWE's history," said Don, who handed over the reins to Robin in May.

Don is moving on from AWE at a time when the company is fast picking up pace for the future.

"When I speak to people, from all areas of the business and at all levels, I get a clear sense of challenge, excitement and national purpose," said Don. "This is a great time to be at AWE and my experience here is something I'll never forget."

The good relationship AWE has with the community via the local liaison committee, and the connections strengthened with West Berkshire Council, are among the many other accomplishments Don is pleased with. He said: "There's no better way to build trust than to say what you believe to be important and then do what you say."

Just a few weeks into the job, Robin says he is impressed with the scope and the scale of AWE: "Already, I've discovered the company has good tools, good people and good processes."

"Everywhere I go I've scratched the surface to find a very professional set-up. I was expecting it to be somewhat old

fashioned but I've been pleasantly surprised."

Robin feels one of the main challenges at AWE is managing a very diverse set of internal and external stakeholders at all levels.

"It's clear we need to have a simple, balanced programme of work – which we must make accessible to everyone. For that we need to have a strategy, success factors and performance indicators so everyone can align to them."

Robin is also heavily focused on safety. "I come from a world of extremely high safety culture. AWE has clearly come a long way and has dramatically improved safety standards, but we now need to recalibrate our understanding of performance and compliance."

"I have some simple aims for this company. We have to be safe, secure and clean. We have to deliver the programme. We all have to understand what makes us financially successful. And we need to understand our role in securing that success."

## Students get a taste of physics

Physics experts from AWE have supported an initiative which encourages GCSE students to think about science as a career.

SEPnet (South East Physics network) has linked universities across the south of England to reach out to pupils. AWE became involved through its technical outreach department which aims to engage with external scientific, engineering and technical communities to form relationships of mutual benefit.

Gary Burnell, senior manager technical outreach, said: "We were extremely delighted to support this initiative which gives the opportunity to demonstrate the principles of physics in an interesting and innovative way."

The most recent series of events – at the Surrey, Kent, Sussex and Queen Mary, London universities – aimed to encourage students to think about pursuing science at university and beyond.

Demonstrators led the Year 10 and 11 students through a number of experiments and chatted to them about their own experiences.

AWE scientist Fraser Dear said: "The events were a complete success with the students all getting access to experiments they had not necessarily done at the schools they had come from."

Students were invited to lectures and then took part in practical sessions, including measuring radiation, wavelengths and radiation in medicine. The AWE helpers ran a "half life" experiment which included a discussion on radiation, decay and radioactive materials. Discussions were then had regarding the half-life of radioactive elements and how these values can help to determine the composition of an unknown radioactive material.

"It was great to impart some of our physics knowledge to students who were interested in the subject – and hopefully show that physics can be fun and accessible," said Fraser.



## It's hair-faced cheek

The fun-loving spirit was certainly in the air at AWE during Comic Relief. Hundreds of AWE staff took part, doing "something funny for money" and raising thousands of pounds.

At Burghfield, the normally clean-shaven LUPUS construction management team showed their loopy side when they grew beards – and then dyed their facial carpets red. "No one was allowed to shave for a month," said DMP's Toni Jones.



All smiles... bearded wonders Derek Keegan, Toby Carr, Mark Scope, Craig Holliday and Gary Taylor

## Gift just breathtaking

AWE has given a boost to a training scheme in Tadley which offers free life-saving skills.

The Heartstart UK: Tadley Triangle Scheme teaches people basic life-saving skills, including learning the recovery position and what to do if someone experiences a heart attack or loses consciousness. The £200 donated by AWE's Community Committee went towards replacement artificial lungs, used in training.

AWE's Marge Wilson, a volunteer with Heartstart, said: "This is a fantastic donation. When you see someone, no matter how young, put someone in the recovery position – it's a great achievement. It gives them the confidence to try this in a real situation and that could save a life."

Bryan Vowell, the scheme co-ordinator, said the local branch originated after community response officers were called to an incident and found nothing had been done at the scene to help those in need of medical attention.

"It's great to get this donation as without this sort of support we would be spending more time fundraising rather than teaching," said Bryan.

● Heartstart sessions cover Newbury, Reading, Basingstoke and the districts of Tadley. For more information or to book a session, call Bryan Vowell on 0777 3678 198 or email [hs.tadleytriangle@googlemail.com](mailto:hs.tadleytriangle@googlemail.com)



Cheque it out... Marge Wilson, front, with Bryan Vowell and Georgina Jones

## Diet sparks a charity trek

Two receptionists from AWE – Janna Gay and Dion Farrell – are celebrating a combined birthday of 100 years by taking part in a 50-mile charity trek in the Grand Canyon in September.

Janna said: "It all began last year when we started losing weight. Between us we have lost eight stone, but we'd like to lose one more."

Janna, 60, and Dion, 40, hope that undertaking the trek will help them to achieve their goal weight while also raising money for the Children's Adventure Farm Trust.

The pair have been training for the gruelling hike by walking along coastal paths in Cornwall.

The pair have been training for the gruelling hike by walking along coastal paths in Cornwall.

● To sponsor the pair, who both need to raise a minimum of £3,000 each – visit [www.justgiving.com/jannagay](http://www.justgiving.com/jannagay) or [www.justgiving.com/dionfarrell1](http://www.justgiving.com/dionfarrell1)

## Firemen face fun soaking

Children and carers at Naomi House Children's Hospice gave AWE's firefighters a soaking during a visit.

Firefighters Simon Hall and Ciaran O'Sullivan from the AWE fire and rescue service took along one of AWE's fire appliances to Naomi House – AWE's local charity of the year 2008 – as part of Ciaran's pledge to raise funds for the charity by running the London Marathon.

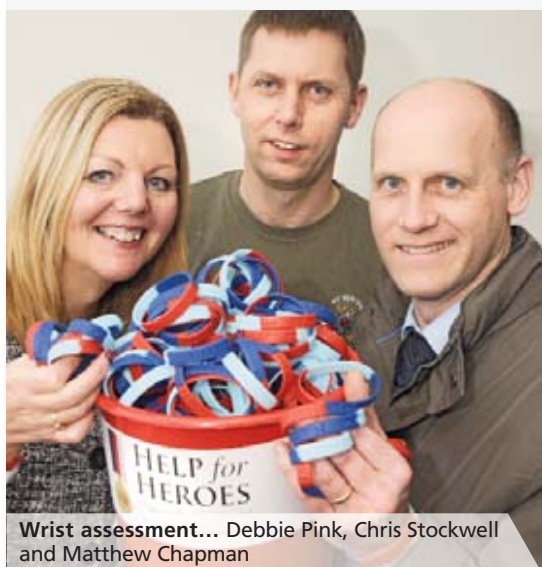
"They all seemed to enjoy seeing us in our uniforms and the children loved the fire engine and positively encouraged the soaking of Simon's fire helmet," said Ciaran.

## TA Chris helps heroes

Chris Stockwell, a computer-aided design system manager, has raised more than £2,200 at AWE for Help the Heroes, the charity that helps support wounded British servicemen and women injured in current conflicts.

The charity is particularly close to his heart – he's been in the Territorial Army for 22 years. Chris serves as Battery Sergeant Major with 457 Battery Royal Artillery, based in Southampton. He is shortly moving to 39 Signals Regiment in Bristol as a training Warrant Officer when his current post ends.

Chris began fundraising shortly after last year's 100th anniversary celebrations of the TA by collections and selling wristbands and pin badges. He and his TA unit also raised £3,250 while cleaning the war memorial outside Winchester Cathedral.



Wrist assessment... Debbie Pink, Chris Stockwell and Matthew Chapman