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the newspaper for AWE's neighbours

ISSUE 7/SUMMER 2010



# connect



Winners... AWE's head of environment Gareth Beard presents Bramley C of E Primary School pupils with their award

## The Darwin dancers...

**Dinosaurs and natural history** came to life for a group of Bramley C of E Primary School pupils when they enjoyed a prize-winning trip to the Darwin Centre in London, courtesy of AWE.

To celebrate the 150th anniversary of *The Origin of Species*, AWE's Schools' Liaison programme designed an environment competition for primary schools.

Bramley pupils, from the school near Basingstoke, wowed the judges with their innovative use of acting and dance to demonstrate the effect climate change is having on coral reefs.

As well as exploring the delights of the Darwin Centre, which is home to millions of insect and plant specimens, the children also toured the rest of the Natural History Museum to look at models of other prehistoric creatures.

Lindsey Appleton, chairperson of the Schools Liaison Scheme, said: "It was a good, modern way of presenting Darwin's ideas that makes it accessible and interesting to children – as well as making it something they will remember.

"We were very pleased with the way the environment competition was received and are aiming to organise it again later this year."

## AWE celebrates golden safety era

AWE is celebrating a decade of consecutive awards from the Royal Society for the Prevention of Accidents (RoSPA).

This is the 10th successive year AWE has won recognition from RoSPA and the company received the President's Award for its 10 consecutive Gold Award.

Gold Awards are presented for a very high level of performance demonstrating well-developed occupational health and safety management systems and culture, outstanding control of risk and very low levels of error, harm and loss.

AWE was also highly commended in the Dilmun Environmental Award which recognises excellence in environmental as well as health and safety management.

Heather Young, AWE's director of environment, safety and health, said: "We were delighted to win these awards – especially as it is the 10th successive year AWE has been recognised by RoSPA. This

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## Brownies don high vis jackets

Dozens of Brownies now have an additional piece of uniform thanks to AWE – high visibility jackets for when the nights start to draw in.

Two Brownie packs have benefited from the donation – 1st Turnpike, which reopened last September, and 5th Newbury, which started in 1974.

One of the Brownie pack leaders, Natasha Richardson, said: "We have been taking the girls out and, especially when the winter nights started drawing in, we felt the risk more and wanted to get some high vis jackets."

Natasha's husband, Terry, who works at the base in Aldermaston, approached AWE's Community Committee which provided the jackets for the 24 Brownies at 5th Newbury and the 18 at 1st Turnpike.

Natasha said: "We're delighted with the jackets and many thanks to AWE for them. The extra visibility means we all feel a lot safer and more confident when we're out and about."

Michele Maidment, secretary of AWE's Community Committee, said: "Health and safety is paramount at AWE and we are delighted to be able to support these Brownie packs in keeping them safe and visible while out in the community."



Bright lines... members from 5th Newbury proudly wear their hi-vis jackets



Just rewards... Heather Young and members of her team with the RoSPA awards

## AWE celebrates golden era

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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 suitable standards in safety and environmental management and these awards reflect that aim."

There was also success for AWE's construction management department which received the RoSPA Gold Award for Construction-Engineering Occupational Health and Safety.

Gary Buckley, head of construction, said: "This is the fourth year running we have been awarded a Gold Award. With construction hours increasing across the sites as the business builds the future, this award is in recognition to all those involved in making AWE a safe place to work."

There was also cause for celebration on the night for AWE's contract partners Emcor Facilities Services and Hertel. Both were awarded the RoSPA Gold Award in Occupational Health and Safety.

## Waste partnership wins recognition

A successful partnership between AWE and the University of Brighton to reduce radioactive waste has won national recognition.

Experts from AWE and the university have been working on the radioactive contaminated soil treatment process for over two years.

The project was undertaken as part of a Knowledge Transfer Partnership, a government-backed scheme which aims to encourage academia to transfer expertise back into the world of industry.

The partnership's success has been recognised with the Natural Environment Research Council's award for best Knowledge Transfer Partnership.

The project looked at the development of ferric iron remediation and stabilisation which is a low-cost, low-technology, non-selective method for

mobilising and redistributing contamination within a mass of soil.

Laura Peacock, AWE's strategy and environmental projects manager, said: "At AWE, we are working to preserve, protect and improve the environment.

"We did lab trials which led to a field-scale experiment with a skip of soil contaminated with low levels of radioactivity. This showed it was possible to move the contamination to the middle section of the soil.

"This was a good result as it effectively means the soil at the ends could be disposed of as normal waste, reducing the volume of soil that needs to be disposed of as radioactive waste. The regulators were involved with the experiment and they were pleased with the results."

## Gruelling... but great year

Justin Woodley has had an impressive year – he was recently highly commended in the South East Learning and Skills Awards 2010. He was nominated for the advanced apprentice of the year category, having achieved a double distinction in his national certificate. And, towards the end of last year, he was voted the South East's top nuclear apprentice and won the National Skills Academy's Nuclear Skills Award.

Justin, a final year electronic apprentice, was described by his peers as an enthusiastic, motivating and conscientious employee, putting the maximum effort into everything he undertakes.

Justin said: "After winning the award, I felt a sense of pride for myself and our academy, which has provided endless support in helping my career progress within AWE.

"The process of achieving this accolade was a challenge in itself. I had to be nominated by the academy and submit a detailed application. I then had to do a presentation which was filmed and shown at the awards evening in Manchester.

"There were three finalists from each region and none of us had a clue whether we'd won. Winning has encouraged me to try to excel even further in my daily job and I'm looking forward to learning new skills to progress my career."

In his spare time, Justin trained for more than eight months for the Tough Guy contest near Wolverhampton.

"It was incredibly difficult, but the sense of achievement was huge. The Tough Guy Challenge was in aid of Help for Heroes, one of AWE's charities of the year – I raised more than £300."



Star player... Justin Woodley with his trophy for the South East top nuclear apprentice

## Alliance will boost mutual opportunities

AWE has added another prestigious name to the institutions it collaborates with by creating a strategic alliance with the University of Bristol.

The official signing ceremony took place in March between AWE's chief scientist Daryl Landeg and Professor David Clarke, deputy vice-chancellor at the university.

"Building on an established track record of excellent research with the University of Bristol, I am delighted we have now formed a strategic alliance partnership," said Daryl.

"The aim of the alliance is to exploit our complementary strengths to make faster progress on challenging and

nationally-important research and development.

"We look to do this with real innovation and also in partnership with research councils and others."

Professor Clarke said: "AWE and the University of Bristol have a long history of collaboration in key research areas.

"This new strategic alliance presents both organisations with the opportunity to develop new collaborative ventures, combining research, people and skills to ensure we are at the forefront of scientific discovery in years to come."

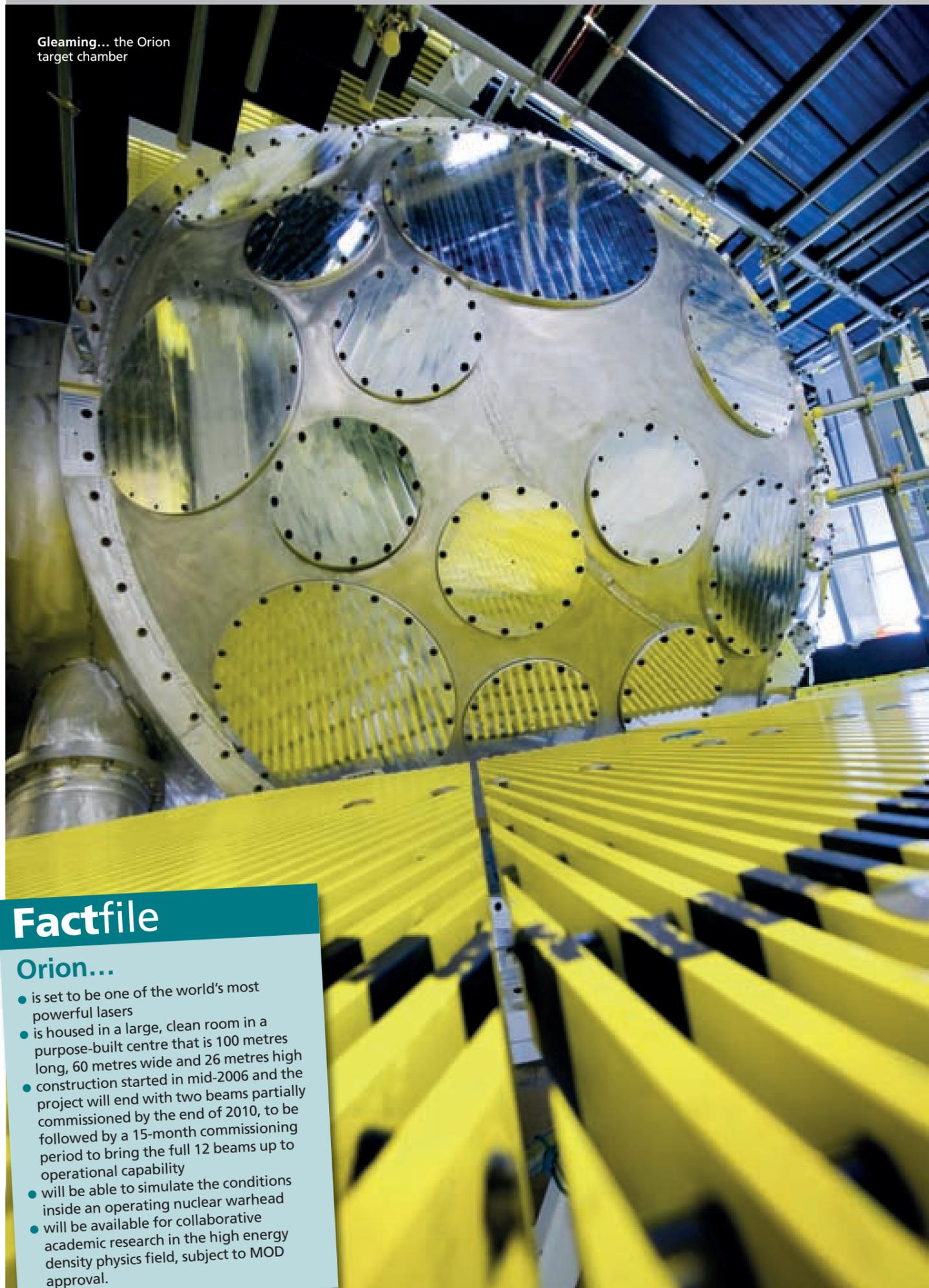
There are a number of projects which are already under way with the university, including the fields of smart testing,

sensors, synthetic chemistry and materials science, which examines the reactions of foams, adhesives and rubbers.

Additional potential collaborations have been identified in areas including computational chemistry and the development of new detection techniques.

Gordon Arthur, AWE's head of technical outreach, said: "This strategic alliance recognises the strong links already in place between Bristol and AWE's science and technology communities and will encourage an increasingly broader interaction as, through the alliance, we will identify further areas of mutual benefit."

Gleaming... the Orion target chamber



## Factfile

### Orion...

- is set to be one of the world's most powerful lasers
- is housed in a large, clean room in a purpose-built centre that is 100 metres long, 60 metres wide and 26 metres high
- construction started in mid-2006 and the project will end with two beams partially commissioned by the end of 2010, to be followed by a 15-month commissioning period to bring the full 12 beams up to operational capability
- will be able to simulate the conditions inside an operating nuclear warhead
- will be available for collaborative academic research in the high energy density physics field, subject to MOD approval.

Firing up Orion's state-of-the-art laser – one of the most powerful in the world – is two steps closer with the installation of its hefty power supply and 12 ground-breaking safety dampers. Project teams have partnered with British, French and Swiss companies to develop and test the new additions to the purpose-built facility. *Connect* zeros in to find out more...

# Power behind the throne

**Weighing in at** 40 tonnes, Orion's new power supply is truly heavy duty.

Designed and built by Thales Communications in France, the 15 2.5-tonne capacitor bank modules (CBM) can hold up to seven mega-joules to power Orion's two short-pulse and 10 long-pulse laser beams.

Dr Michael Mead, who is responsible for the CBM contract, is delighted to have the Pulse Power System (PPS) installed and commissioned successfully.

It was officially handed over in December, with the PPS modules transported in five large lorry loads. The modules are critical because these are the main power supplies.

Michael said: "The Orion project delivery finishes later this year when we make one long pulse beam and one short pulse beam work at about one tenth of the full power. Going up to full power will take several years. When it's fully commissioned, it will be used to heat small targets to produce plasma of 10 million degrees centigrade."



Heavy duty... the capacitor bank modules power Orion's laser beams

## Centre aids beam time sharing

Launching the new Centre for Inertial Fusion Science at Imperial College, London is part of the preparations for sharing Orion's world-leading laser with the academic community.

AWE's head of plasma physics, Peter Roberts, said the centre – which also supports the European HiPER fusion power project – was an important way of engaging academia on Orion.

"MOD has agreed that some of the beam time may be available externally and we're working on how best to achieve this. We've agreed that we'll do the scheduling through the Central Laser Facility at the Rutherford Lab at Oxford," said Peter.

"We've also talked to the Engineering and Physical Sciences Research Council and it will be carrying Orion's details on their website."

The first academic access is expected to be in 2012 after the facility has been fully commissioned.

**Taking the heat...** an operative checks on the fire dampers



## Safety gear passes test

Innovative new fire and laser safety equipment designed by James Sanders for the Orion facility has passed a key furnace test with flying colours.

The combined laser fire damper (LFD) successfully withstood 1,000 degrees C for two hours in the off-site evaluation.

James is delighted with its performance and is confident that the next stage, the laser shutter operational assessment, will also go well.

"The British Standard fire resistance test to certify it as a fire damper was the first of its type we'd undertaken," said James, who led the team that developed the ground-breaking design.

"We need shutters to prevent lasers leaving the controlled area and fire dampers to stop a fire spreading – but there was not enough room for both, hence my idea of combining them into one compact solution that works in exactly the required way.

"I had the idea for them in November 2008 and they were installed last summer with the fire testing done in December," said James, mechanical engineer on the Orion project.

The 12 LFDs, which each weigh 300kg, were designed in partnership with the world's leading vacuum valve company, VAT, in the UK and Switzerland.



Top driver... Norma Barrett

## Safe driving course builds confidence

The skills picked up on a skidpan course in how to cope with driving in bad weather helped AWE employees cope admirably with the icy driving conditions earlier this year.

AWE's Norma Barrett and Claire Littleford were among those using skills learnt on the driver safety awareness course at Castle Coombe race circuit.

"I think it was a fantastic course," said Claire. "It really helped with my confidence."

"I now have the experience to handle driving in icy conditions. The skidpan course advanced my skills and hazard awareness – and, because of knowing what to do, when my car did skid out on the ice, I controlled it."

Despite stumbling out of the starting blocks as the worst driver on the course, graduate development specialist Norma raced ahead to win a trophy.

"I definitely started the worst driver – I was terrified," said Norma. "But the instructors were very encouraging and I was determined to make the most of this opportunity from the company. I was amazed to finish the day as best driver."

"I attended with trepidation as I've had scary experiences driving. The course helped build my confidence, gave me greater awareness of the techniques required to control a vehicle and improved my driving abilities, particularly in icy weather."

Those on the course experienced both front and back-wheel drive cars, learning the different techniques needed to control them.

# AWE's charities get cash boost

**Generous staff** helped raise £14,423 for AWE's 2009 Charities of the Year.

The total amount raised was shared equally between Bliss, the national special baby care charity, and local mental health charity the Basingstoke Advocacy Scheme (BAS). These were the two charities nominated by staff for 2009.

The fundraising programme, called the Charities Challenge, was organised by AWE graduates and the Community Committee – a group dedicated to co-ordinating the company's support for local and national causes.

Scott Richardson, from the 2009 graduate charities project, said: "Yet again, the people of AWE have been fantastically generous."

"Funds were raised from a number of activities – from fun runs and cake sales to a battle of the bands competition. We even attempted to raise the weight of the executive team in spare change!"

"We are thrilled to raise an appreciable sum of money for Bliss and BAS and hope our contribution has a positive impact on the lives of the people these charities support."



The challenge is now on for the graduate team to raise money for the 2010 Charities of the Year. The national charity is Help for Heroes, which provides support for wounded servicemen and women of the Armed Forces, while the local charity is the Basingstoke-based Pelican Cancer Foundation.

● Pictured above, AWE's chief executive officer Robin McGill, left, presents a cheque to James Edmonston, partnerships officer for Bliss. Also pictured are AWE graduate scheme members.



Helping hand... AWE's Infrastructure director Andrew Jupp presents the cheque to Kay Lacey, left, and Liz White

## Landscape plan gets go-ahead

An unkempt and neglected area near the village hall in Pangbourne will soon be transformed thanks to a donation of £1,000 from AWE.

Pangbourne Parish Council raised funds to build an extension to the village hall, which opened in 2008. Next to the hall is an area of grassland which the council wants to develop into a safe environment for everyone to enjoy.

Once completed, mothers and toddlers will have a safe area to play and enjoy the sunshine and it can be used in the summer months for cake sales and other activities. A footpath that

leads to the local church will also be repaired and resurfaced.

Councillor Kay Lacey said: "The money will help us, finally, to complete the redevelopment of the village hall by landscaping the area next to it. This particular project was a priority proposal from the original village plan produced in 2003 and it will give hall users a safe, enclosed and attractive landscaped area for their enjoyment."

"The parish council is extremely grateful to AWE and Dr Jupp for this generous donation."



Impressed... Ken Atkinson and one of the two new supercomputers

# Supercomputers have real byte!

**AWE is the** proud owner of two new powerful supercomputers which have a combined peak performance in excess of 70 teraflops (trillions of calculations per second).

The Bull-supplied systems – known as Willow – have been installed at AWE's Aldermaston site and will soon be providing valuable data to the scientific community with their enormous calculating power.

Supercomputing provides AWE with the ability to create the three-dimensional modelling and simulation requirements of its physics, engineering and materials departments.

Dr Graeme Nicholson, the director of AWE's science and technology programme, said: "This investment will enable us to make advances on a range of scientific fronts, including weapon physics, materials science and engineering."

"This will underpin our continued ability to underwrite the safety and effectiveness of the Trident warhead in the Comprehensive Nuclear Test Ban Treaty era."

Ken Atkinson, high performance computing strategy and procurement manager, said: "The Willow computer systems have a combined computational performance equivalent to

about 3,500 high-specification home PCs, but with about six times the amount of memory.

"The green credentials of each of the Willow systems are very impressive too, giving about the same computing performance as the old Redwood computer system they replace but, importantly, only using about 20 per cent of the electricity."

The purchase of the supercomputers allows AWE to refresh its computing capability in line with the latest technological advances and is part of the company's continuing investment in infrastructure and facilities to support the science programme.

## Students inspired by hands-on demonstrations

Pieces of paper jumping in the air and the chance to recreate lightning are just some of the things that drew pupils to AWE's stand at TeenTech.

TeenTech is an initiative organised by the West Berkshire Education Business Partnership to inspire and encourage GCSE students to think about possible careers in science, technology, engineering and maths.

AWE was one of a number of local companies invited to the

event and demonstrations included use of a static electricity generator and light sensors.

John Ansell, Schools Liaison Scheme representative, helped with the hands-on demonstrations. He said: "We took various bits of equipment with us, including static electricity generators, light sensors and models of a skeleton and a torso."

"We hosted school parties for 10 to 15-minute slots, discussing and demonstrating science and

technology using the equipment. There was no set agenda, each demonstration was tailored to meet the interests of the school party assigned to us at the time."

Ian Ridpath, a materials scientist who also helped at the event at the Madejski Stadium, said: "We demonstrated how science can be used to explain naturally-occurring phenomena such as lightning and also how understanding the properties of materials helps you build sensors

which are used every day.

"The pupils enjoyed taking part in the demonstrations and appreciated how the science they are learning in the classroom could be useful in potential careers in science and engineering."

"I enjoyed the day and was pleased by the enthusiasm of a large number of pupils. More than a few of them had an outstanding knowledge of science for their age."



Head-turners... the young fundraisers from Hurst Community College

## Hats off to college

AWE sponsored The Hurst Community College's Hats for Haiti competition, which raised £432.73 for earthquake victims.

Children at the school made cash donations to wear unusual hats for a day in support of the appeal.

AWE's Community Committee gave £60 to support the fundraising initiative – some of which was spent on prizes for pupils wearing the best hats. The remaining funds will go towards other charitable school activities during the year, such as raffle prizes.

Michele Maidment, secretary of AWE's Community Committee, said: "We were happy to support a local school and it was good to see children being so aware of problems elsewhere in the world and wanting to do something to help victims of the earthquake."

# Memorial skatepark is just the beginning



Volunteers... Sadie Rowe and Tracy Tompkins at the new skatepark



Two AWE employees have helped create a new skatepark in Tadley in memory of two youngsters killed in a car accident.

Sadie Rowe and Tracy Tompkins work as part of The Jake 'n' Lee Tadley Youth Fund, a community project launched following the tragic deaths in 2007.

"Tadley skatepark became a place for the youngsters to meet and help each other grieve the loss of their friends," said category manager Sadie, who works for supply chain.

Project change manager Tracy, who is assistant chairperson of the fund, said: "It was in desperate need of refurbishment. The idea was to work with local youths to get a memorial bench designed and fitted and then fundraise to refurbish the skatepark as a lasting tribute."

Following the unveiling of the memorial bench, AWE's Community Committee donated money towards producing charity wristbands and keyrings.

Sadie and Tracy attended the official opening of the skatepark on May 10.

"It was a positive but emotional day," said Sadie. "We are so grateful to everyone who helped raise money. The skatepark is just the beginning as we are brainstorming for future youth projects and would welcome suggestions."



Cheque aid... left to right, Maureen Stokes and Ann Blackmore from Shopmobility and AWE's Michele Maidment

## Cash gift keeps scooter on road

AWE donated £200 to Shopmobility Basingstoke, providing continued support to the charity which gives people with mobility challenges better access to town centre facilities.

AWE's Community Committee provided £1,200 in funding for a new scooter in 2003 – the £200 will help towards its annual upkeep and maintenance.

Shopmobility Basingstoke provides powered scooters and electrical or manual wheelchairs for hire to improve access to Basingstoke town centre and Festival Place, as well as for longer-term loans for holidays and weekends away.

Ann Blackmore, manager of Shopmobility Basingstoke, said: "In this time of recession, when many companies are unable to afford sponsorship, it is good to have continued support from AWE to maintain the vehicle."