

HEALTH MATTERS

The newsletter of The WPH Charitable Trust – A charity supporting health related projects for individuals, groups and organisations across Coventry and Warwickshire

Grant enables Warwick University breakthrough

The WPH Charitable Trust has funded pioneering work into an innovative microscope which allows scientists to observe how cells operate.

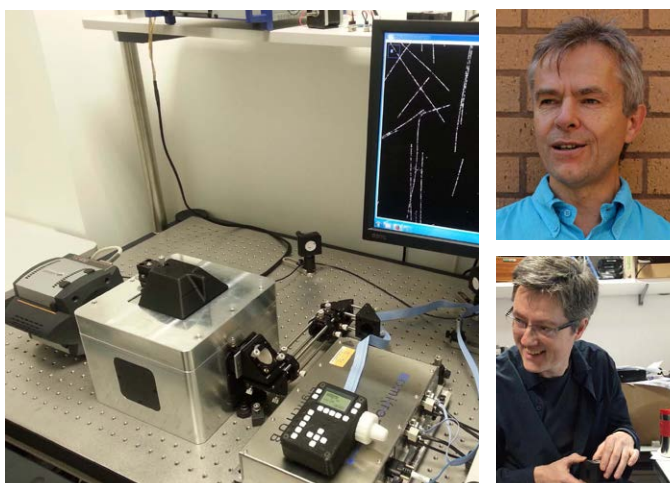
The discovery – which is claimed to be better and cheaper than other microscopes – is being made available to the scientific community on an 'open source' basis, meaning there is no charge for the intellectual property, and scientists around the world can make use of the technology to build a microscope for their own work.

The trust donation

WPH Charitable Trust has provided a total of £100,000 towards the work of Warwick Medical School's Mechanochemical Cell Biology team, under the leadership of Professor Rob Cross (right, top), to support the Warwick Open Source Microscope (WOSM) project.

WOSM allows scientists to study the mechanical mechanism of how cells divide, which is important in medicine, to understand how cancers develop, and in plant biology, to understand how food plants evolve, for example.

Warwick Medical School has used the invention to study how individual molecules move around within cells, and so



Professor Rob Cross (Top right) and Dr Nick Carter (Bottom right) with their Warwick Open Source Microscope (WOSM).

how cells can divide – an important key to understanding how cancers form and spread.

But the work on the microscope is expected to find a massive range of applications across many different scientific fields, as it allows researchers to examine what is happening at the nanoscopic scale. A nanometre is a millionth of a meter.

But the real breakthrough is that this can now be done on an optical microscope, rather than a massively more expensive electron microscope, by using many components already available relatively cheaply in

the fields of optics and electronics.

The trick has been to develop an ultra-high super-resolution application using a highly stable platform and high-powered light sources (a variety of lasers) together with bespoke software and tailor-made electronic controls. Much of the technical development work has been conducted by Professor Cross's colleague, Dr Nick Carter (right, bottom).

By making the discovery available on the web as 'open source', the various components of the



The H Singh Award

WPH Charitable Trust awards an annual prize to the best graduating medical student of the University of Warwick Medical School. Originally called the Gold Medal Award, the prize was recently renamed the H Singh Award, in memory of a highly-regarded trustee of the charity.

The Trust has received news from one of its gold medallists spanning the past 12 years.

Heather Dias (nee Tovey) - 2009/10 winner (Above)

After leaving WMS, Heather moved to the North West where she completed both her foundation and core medical training.

She now work as a registrar in Clinical Oncology in the East Midlands. She says she has found that her WPH award has been invaluable each time she has applied for a new post, as it helps exemplify her academic achievement at medical school.



Baby research study

To help identify future Diabetes patients

New research at George Eliot Hospital will track the weight of babies born to mothers with Gestational Diabetes to help understand whether they are more likely to develop obesity and Type 2 Diabetes when they become adults.

To capture the exact bodily composition of these babies, the research team are to use a special device known as a PEAPOD. The PEAPOD accurately measures the fat and water make-up of the babies using air displacement - the baby is placed in the pod, and by measuring the air displaced from the pod, the baby's total body fat and muscle content

is accurately calculated. These calculations help to predict who will go on to develop Obesity and Type 2 Diabetes in later life. Such knowledge will enable to implement strategies to reduce the risk from birth.

Dr Saravanan who also works at Warwick Medical School, runs the largest clinical study on Gestational Diabetes

(GDM) in the UK - known as the PRIDE study and the PEAPOD research will be another part of this study supporting patients with diabetes.

This innovative



device was generously funded by WPH Charitable Trust, a local charity which supports medical research that benefits local communities across Coventry and Warwickshire, WM Clinical Research Network, and by University of Warwick alumni, who generously supported the device

following a charity appeal.

Dr Saravanan - or Sara as he is known locally - was thrilled with the support received by the WPH Charitable Trust and Warwick's graduates: "We are leading the world with this important study to understand how GDM impacts babies in the longer term, and to be able to purchase this crucial piece of equipment to make the findings even more accurate.

"The Midlands has the highest rates of Type 2 Diabetes in Europe, and it is a credit to WPH and Warwick's alumni that they have come together to support this work which will benefit patients across the region."

Head of Maternity at George Eliot Hospital, Alison Talbot said: "Our maternity team welcome this clinical study and will work closely with the team to support this important research."

A launch event was held on 30th June to celebrate the PEAPOD's installation, attended by WPH trustees, Warwick graduates, and some very special babies who have already taken part in the trial.

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Continued from page 1

out in plastic or resin format using 3-D printers, and assembled locally, keeping production costs relatively low.

Global breakthrough

To date, about six WOSM microscopes have been built at various laboratories around the World, ranging from Australia to the USA. A highly promising collaboration has also just been established with the Crick Institute, which is the new flagship institute for UK biology, named after the discoverer of DNA, which has just been built in London.

The first-ever WOSM developers conference has also just concluded

in Warwick this month, attended by WOSM developers from across the World. They assembled to hear the latest news about WOSM development, and share their own progress and plans for the technology.

Future plans include enabling developers to build machines more cheaply, as well as considering how to make the technology available to a much wider potential user-group, including the education sector, possibly by reducing the level refinement.

'This project would never have seen the light of day without the funding we received from WPH Charitable Trust', said

Professor Cross.

'It is a tremendous, on-going success, which has been enabled entirely due to the generosity and far-sightedness of the WPH trustees', he said.

Bob Grieve, one of the WPH trustees, said: 'We were immediately attracted to this project both by its potential to advance medical knowledge, and by the fact that Warwick University is making it freely available to the global knowledge community, so allowing other researchers to use it for their own work. Who knows what exciting results may emerge in the years to come?'

Special needs school receives £15,000 grant

A Coventry special needs school has been able to adopt a specialist pupil development programme, thanks to a £15,000 grant from WPH Charitable Trust.

The grant has enabled Castle Wood School to develop its 'Move Programme' by improving pupil mobility using different supporting equipment. The Move Programme enhances pupils' lives by improving their wellbeing, and allowing them to gain access to more of the school curriculum by being more mobile.

The donation has been used to purchase specialist equipment which helps children with complex physical and learning difficulties develop their functional mobility capabilities. The children need help learning how to sit, stand and walk, and this range of equipment assists them to achieve such skills, and become more adopted into society.



Mobile overhead tracking systems, gait trainers, and a range of equipment for use in the school's hydrotherapy swimming pool is making a massive difference to how each pupil can learn these fundamental life skills.

Said Jodie Dunn, Move co-ordinator for Castle Wood School: "Your donation has allowed us to buy equipment to support the children learning how to stand and take their first steps. We've also bought some pool equipment, which not

only helps the children have a lot of fun in the water, but helps to develop their muscle strength, sense of balance and co-ordination.

"By using this new equipment, our pupils

can develop their ability to move and so become more independent, and more able to join in with a wider range of other activities."

The Move programme - originally developed in the USA - seeks to set development plans created around achievable, personal goals set by the individual with the support of their family, to improve people's physical and communication skills for both learning and life.



New kitchen for MS sufferer Diane

Diane Quirke, a fifty year old Binley, Coventry resident with advanced and long standing MS (Multiple Sclerosis) recently applied to the WPH Charitable Trust for funding to modify her kitchen to make it wheelchair friendly and usable.

Diane is a housewife but is almost entirely wheelchair bound so had been struggling to carry out routine domestic activities in her kitchen for some time.

Funding - of more than £4000 - was approved and Diane was able to have her kitchen redesigned and modified so she could access all parts of the kitchen in her wheelchair and had room to spin and manoeuvre her wheelchair in the new kitchen.

Diane is delighted with the changes to her kitchen which she says has transformed her life.

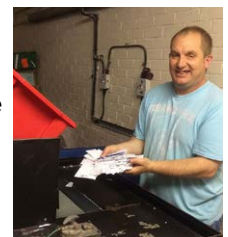


Recycling grant helps disabled people

Coventry-based CROW Recycling has received a grant from WPH Charitable Trust which will help the charity continue to provide opportunities for disabled people.

The charity recycling business engages around 10 people per week to help with the collection, sorting and grading of recyclable materials such as office paper, toner cartridges, drinks cans and clear plastics before forwarding for further processing. The service includes the shredding of confidential documents for local businesses and other organisations.

CROW's funding from the city council was cut last year, and so the operation has been forced to become more financially self-reliant.



Medical charity grant helps Shipston CF sufferer purchase indoor exercise bike

Francesca McEwan, 9, of Shipston-on-Stour is helping herself manage Cystic Fibrosis (CF) by daily pedalling sessions on a new indoor exercise bike, thanks to a £2000 grant from medical charity WPH Charitable Trust.



Francesca actually has two genetic conditions which are improved by regular exercise – CF, and Hereditary Motor and Sensory Neuropathy (HMSN) – a recently diagnosed form of muscular and nervous wastage – both of which require regular activity to delay the onset of worsening symptoms.

Exercising on her bike allows Francesca to look after her chest and keep her airways clear, as well as supporting normal bone and muscle development, and helping to keep her generally fit. And having the bike at home means she can use it with her sister and friends, making her less isolated from friends and peers.

The Varibike allows

Francesca to select from a choice of tracks and challenge herself and her friends to complete the circuits in record times.

Her mother, Anne McEwan, said: 'It has been used every day since it was installed and Francesca is really enjoying it, especially when she feels like she is peddling around various tracks which she can pick on the laptop.'

Anne McEwan applied for the grant to WPH Charitable Trust, with the assistance of Francesca's specialist physiotherapists at Oxford Children's Hospital, via the charity's website. She stated that the grant was required to keep her as healthy as possible after her recent diagnosis of the second condition.

Abuse charity supported

More local people - both male and female - will learn how to avoid rape and sexual abuse.

More local people – both male and female – will learn how to avoid rape and sexual abuse, and more victims of such crimes will be supported, thanks to a recent donation from the WPH Charity?

Safeline, the Warwick-based specialist charity dedicated to preventing rape and sexual abuse, has received a welcome boost to its funds, following a grant from another local charity originally established to prevent sickness in the region.

WPH Charitable Trust has approved an 'unrestricted' £4,000 grant to Safeline – the third award made to Safeline over the last three years – thereby allowing it to use the funds to support the full range of its work. This award takes the total amount donated by the WPH Charitable Trust to Safeline to £8,000 over three years.

Safeline has provided support and counselling services to over 3000 people during

the last year. But according to Safeline Chief Executive, Neil Henderson, this is still just a drop in the ocean. 'Using official statistics, we calculate that about 13,000 people in Coventry and Warwickshire are victims of a sexual offence each year. That includes about 2000 men, and also includes those people who choose not to report the abuse to the police.

'This grant will allow us to continue to reach out to all people affected by these crimes, via one or more of our services: face-to-face counselling; a range of therapies; our training activities to help more professionals help other victims of these terrible crimes; and our prevention work in schools and young people's groups.

'We can only scratch the surface of the problem, because our core funding is limited, so a donation of this size from WPH Charitable Trust is very welcome, as it can be used wherever we most need it.

