



Exeter Top 10

World-Class

Sharing talent

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In the last edition of *University News*, I predicted that 2009 would be a year of challenge and opportunity. For the University of Exeter, 2009 is proving to be a year of unprecedented success.

As I have said before, the University's aim has been to break into the top 10 universities in the UK by 2012. The remarkable news is that we have achieved this goal three years early. The latest *Times* league table ranks Exeter 9th out of more than 120 universities in the UK. This is a fantastic achievement. No other university has risen faster or higher than Exeter in such a short space of time.

Our mission now is twofold. First, it is to secure our position. Second, it is to aim higher still on the global stage. As a top 10 university, Exeter already combines world-leading research with very high levels of student satisfaction. We are international in impact and outlook - with 3,000 international students at our three campuses. We have also appointed Dr Shaun Curtis as our first Director of International Exeter. Our ambition now is to be a top 100 university in the world by 2015. Our mission is to be world-leading in everything we do: to build world-leading campuses, inspire world-leading research and produce world-leading graduates.

Internationalisation is not only a priority for the University of Exeter – it is a priority for UK plc. One of my priorities as the new President of Universities UK will be to foster the internationalisation of higher education in the UK. In July, I had the pleasure of signing an agreement between Exeter and Abbey, part of the Santander Group, to provide £120,000 worth of financial support over the next three years to fund studentships.

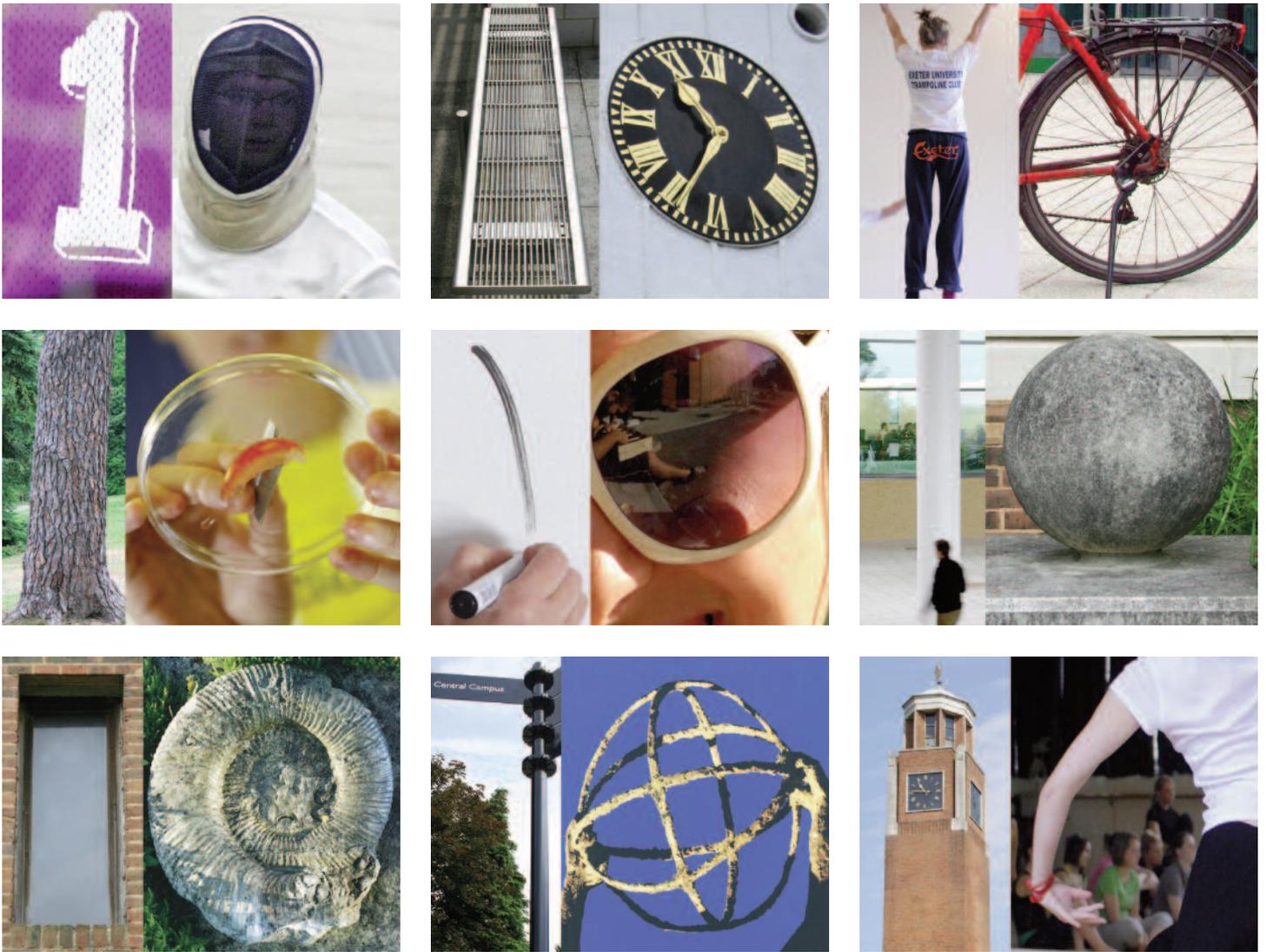
Exeter has also joined the 'Santander Universities' network of more than 700 universities across the world. The aim is to help the movement of students and talent around the globe. This international flow of knowledge will be the trademark of the truly international universities of tomorrow. This is why we are investing in Exeter's international future.

Our vision for the University of Exeter as a top 100 university in the world is an ambitious vision. It is audacious. My firm pledge as Vice-Chancellor of this great University and as President of Universities UK will be to turn this vision into reality.

Professor Steve Smith Vice-Chancellor



^ Professor Steve Smith, Vice-Chancellor (right), signs a partnership agreement with Luis Juste, Director UK and Portugal for Santander Universities.



A Top 10 university

The University of Exeter has broken into the top 10 universities in the UK for the first time. The latest league table published by *The Times* ranks Exeter 9th out of more than 120 UK higher education institutions.

Exeter's rise up the league table has been dramatic in recent years. In just five years, the University has leapt from 34th position into the top 10. The league table result means that Exeter is now the highest ranked university in the South West. High student satisfaction, measured by the National Student Survey, and highly intensive world-class research has fuelled the University's rise. Exeter's aim had been to reach the top 10 by 2012, a goal that has now been achieved three years ahead of schedule.

Vice-Chancellor Professor Steve Smith says: 'It is a fantastic result and a great tribute to the work of the University's staff who have embraced change and worked extremely hard to deliver this result.'

'There are further major developments to come at the University over the next few years, including £270 million worth of new facilities and major investment in increasing research capacity. Exeter is also becoming a more

international university and we are working hard to develop new international teaching and research links with universities in places like China and Hong Kong.'

World-leading

The Times Good University Guide 2010 identified several areas of particularly high performance at Exeter, including:

- the National Student Survey (2nd place);
- the proportion of students getting good degrees (9th);
- the Research Assessment Exercise (10th);
- Completion Rates (11th).

In addition to the overall ranking, Exeter has excelled in the subject league tables.

- In Exeter's 31 subject areas, there are nine ranked in the top five;
- 21 subjects at Exeter make it into the top 10.

The results come after Exeter's success in the 2008 Research Assessment Exercise (RAE), in which nearly 90 per cent of research at Exeter was ranked at internationally-recognised levels.

To see Exeter's full results, visit www.timesonline.co.uk



Exeter helps to turn the tide on **global warming**

Exeter is playing its part in tackling global warming. In the last two years, the University has cut carbon emissions by more than 10 per cent. A Sustainability Manager has been appointed to promote and coordinate

sustainability across the University's diverse range of activities. Meanwhile, the Students' Guild has achieved its Bronze Sound Impact Award from the National Union of Students, recognising the

Guild's strong environmental performance. The University's hospitality outlets have also been granted Fair Trade status. The People & Planet Green League Table 2009 rates the University as the 14th greenest university in the UK, up 22 places from last year.

International Exeter

Alumnus **Dr Shaun Curtis** has been selected to take forward the University's international strategy. Dr Curtis received a BA in Politics and an MA (Distinction) in Middle East Politics from the University of Exeter. He was then awarded a PhD in Political Science from the University of Toronto, Canada.

As Director of International Exeter, Dr Curtis will lead Exeter in its ambition to become one of the top 100 universities in the world. Dr Curtis was the first Head of the UK Higher Education International Unit, based at Universities UK, which was established to support UK universities in a globally competitive world.

'I am absolutely delighted to be returning to Exeter to take forward the University's international strategy,' says Dr Curtis. 'I hope to implement strategies so that everybody can engage in, and benefit from, the internationalisation of the University.'

Prior to his work at the International Unit, Dr Curtis was Research Manager at the City of London Corporation. He has also taught International Relations at the University of Toronto, and has undertaken freelance work at the Office of Transnational Issues – Central Intelligence Agency, Gulf States Newsletter, Jane's Information Group and others.

Class of 2009: **Tindyebwa Agaba**

Iadmit I found my first year very difficult, the second year was less difficult and the third year was an absolute blast,' says Tindyebwa Agaba, the adopted son of actors Emma Thompson and Greg Wise, who graduated with a University of Exeter degree this summer.

Tindyebwa, who obtained a 2.1 (hons) degree in Politics, moved to the UK aged

16 in 2003 and met his adoptive parents at a Refugee Council party. He adds: 'In a nutshell I've been from hell to heaven in three years.'

The 22-year-old is now continuing his studies at the School of Oriental and African Studies in London with an MA in Human Rights Law. Tindyebwa was among more than 3,000 students from the Class of 2009 who graduated in July.



Meeting global challenges



^ Muhammad Islam, Halpin PhD Scholarship recipient.

Philanthropy is helping the University meet global challenges, according to a new report. A Universities UK publication, entitled *Gifts that Grow*, highlights how universities like Exeter are using gifts to fund research to tackle international problems like world poverty, hunger and climate change.

The report highlights the impact of a gift of over £500,000 to Exeter from alumni Leslie and Claire Halpin. The donation supports the efforts of the School of Biosciences to combat the rice blast fungus *Magnaporthe grisea*.

The fungus kills enough rice each year to feed 60 million people in some of the world's poorest countries. Leslie and Claire Halpin graduated from Exeter in 1979, Leslie in Mathematical Statistics and Operational Research, and Claire in Biology. They say: 'We hope that our gift will enable future students to study at Exeter, fostering relationships with the developing world whilst also helping to alleviate hunger.'

Professor Nick Talbot, Head of the School of Biosciences, says: 'This generous donation will allow a new generation of scientists from the developing world to be trained in using the very latest techniques in molecular biology.'

Gifts that Grow charts UK universities' progress in developing professionally staffed development and alumni relations offices and increasing financial support from individuals, foundations and

companies. In 2008, the government launched a three-year matched funding scheme in England, aimed at encouraging donations of all sizes to universities.

2007/08 was an excellent year for fundraising at the University of Exeter, with more than £3.75 million raised in philanthropic gifts from 1,930 alumni, friends and parents.

Securing Exeter's future: legacies

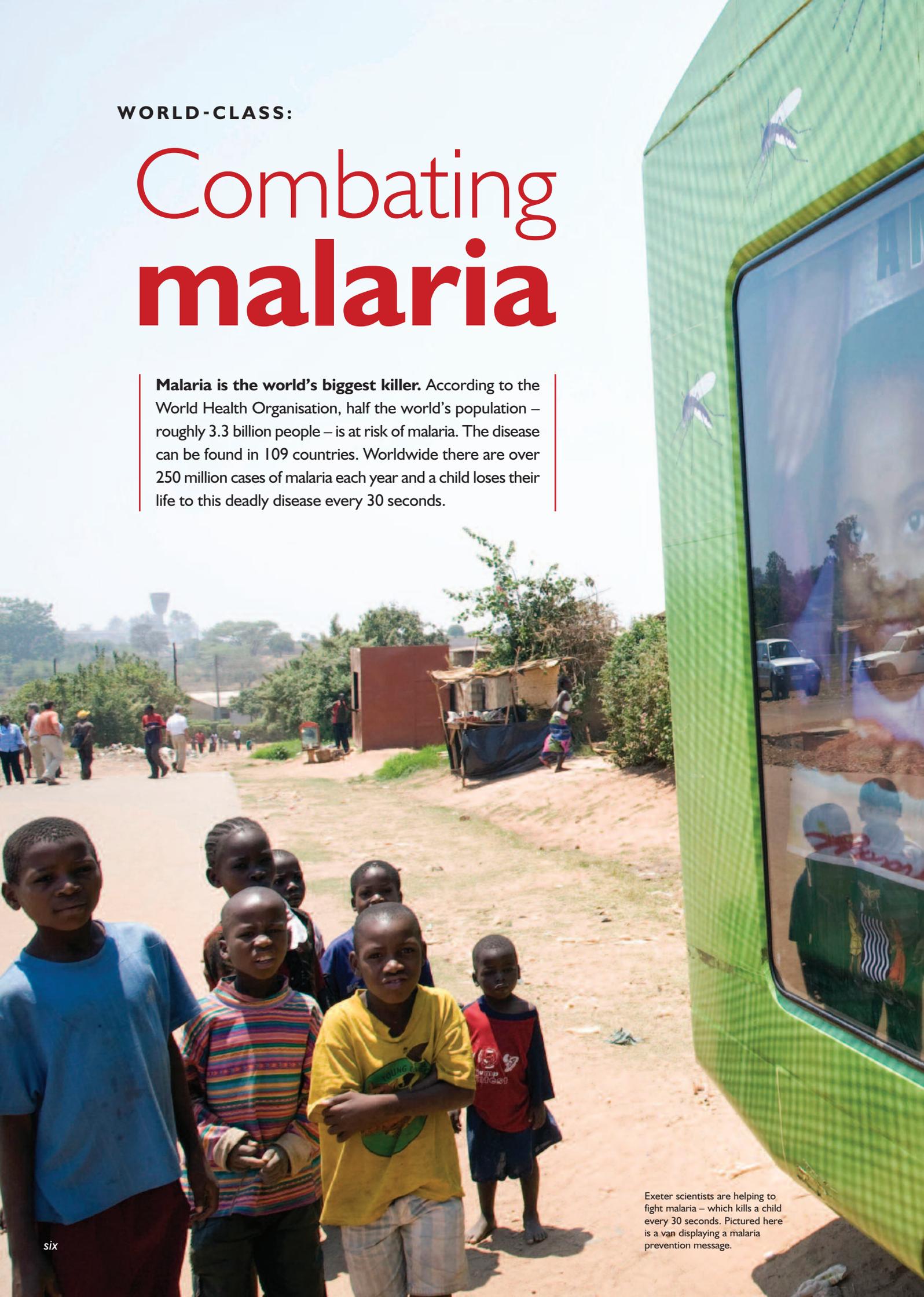
Other leading universities in the world benefit from large incomes from the philanthropic support of students and alumni, together with multi-million pound endowments. The University is committed to building a world-class endowment fund through legacy gifts to Exeter.

To start this fund, 155 alumni have notified us that they intend to remember Exeter in their wills. Together they form the Devonshire Circle. We hope to bring membership of this Circle to 250 alumni and friends by 2012. If you are interested in leaving a legacy and would like more details, please contact Suzie Bannerman on +44(0)1392 269011 or email s.n.bannerman@exeter.ac.uk

WORLD-CLASS:

Combating malaria

Malaria is the world's biggest killer. According to the World Health Organisation, half the world's population – roughly 3.3 billion people – is at risk of malaria. The disease can be found in 109 countries. Worldwide there are over 250 million cases of malaria each year and a child loses their life to this deadly disease every 30 seconds.



Exeter scientists are helping to fight malaria – which kills a child every 30 seconds. Pictured here is a van displaying a malaria prevention message.



A better diagnostic test for the disease would have a very significant impact on these figures,' says Professor Dave Newman. He is leading of team of scientists at the School of Physics that is carrying out pioneering work to develop a faster (and potentially much cheaper) diagnostic test for this deadly disease.

The tragedy is that people living in some of the world's poorest countries are most at risk from the disease. In Africa, malaria is responsible for one in every five childhood deaths. A child has on average between 1.6 and 5.4 episodes of the disease each year.

The disease also has a heavy economic toll. It is estimated that Gross Domestic Product (GDP) is reduced by nearly 1.3 per cent in countries with high rates of malaria transmission. In many African countries heavily burdened by malaria, up to 40 per cent of public health expenditure is spent dealing with the illness.

In many cash-strapped countries, anti-malarial drugs are often prescribed without patients being fully tested and diagnosed with malaria. A major consequence of this is the over prescription of anti-malaria drugs, causing drug resistance. There are widespread fears about this growing resistance to the most effective drug treatment for malaria, with resistance to malaria drugs reported as a rising problem in Cambodia.

Where there are enough resources for testing, two methods are currently available. The first method requires that a specialist use a microscope to look for the presence of the malaria parasite in a patient's blood sample. This method is not only time consuming, but also requires specialist training for the individual carrying out the test. When clinical conditions or microscopy are not available, the standard practice is to use malaria rapid diagnostic tests (RDTs), commonly known as dipsticks.

From behind his desk in the University's Harrison Building, Professor Newman picks up a commonly used form of a rapid diagnostic test.

'The problem with these is that they are used only once and then thrown away,' says Professor Newman, pointing to the plastic test. He adds: 'They also have to be kept at the right temperature, which is very challenging in those countries where

Combating malaria

refrigeration is limited and power cuts are frequent. This means that they are not only expensive but also have a limited shelf life.'

Professor Newman and his team have developed a more efficient and effective way of testing for malaria. Their test determines the level of malarial infection by measuring the amount of haemozoin, the waste product of the malaria parasite, in a fingerprick blood sample. Haemozoin is always produced in the form of rectangular crystals and when the blood sample is subjected to an applied magnetic field, the crystals, being weakly magnetic, align with the field. This behaviour, known as the Cotton-Mouton magneto-optic effect, is detected using a polarised laser beam. The technique gives a positive or negative reading for malaria in less than 60 seconds, and unlike RDTs, only the very small sample cell is disposed of at minimal cost.

In late 2008, the team travelled to Mbita, on the shores of Lake Victoria in Kenya, to trial the technique in the field. Reporting on the outcome of this visit, Professor Newman commented that he was satisfied the trial confirmed the potential of the test as a fast and effective means of testing for malaria.

The next challenge facing the team is to make the test equipment easily transportable. This is because the prototype is about the size of a small domestic fridge.

The plan is to reduce the size of the testing equipment so that it is small and portable, allowing it to be used by health workers in developing countries. The team is already working on this next stage. In early 2009, Professor Newman and his team received a US\$100,000 Grand Challenges Exploration grant from the Bill and Melinda Gates Foundation, which aims to support new ways of tackling global health problems like malaria.

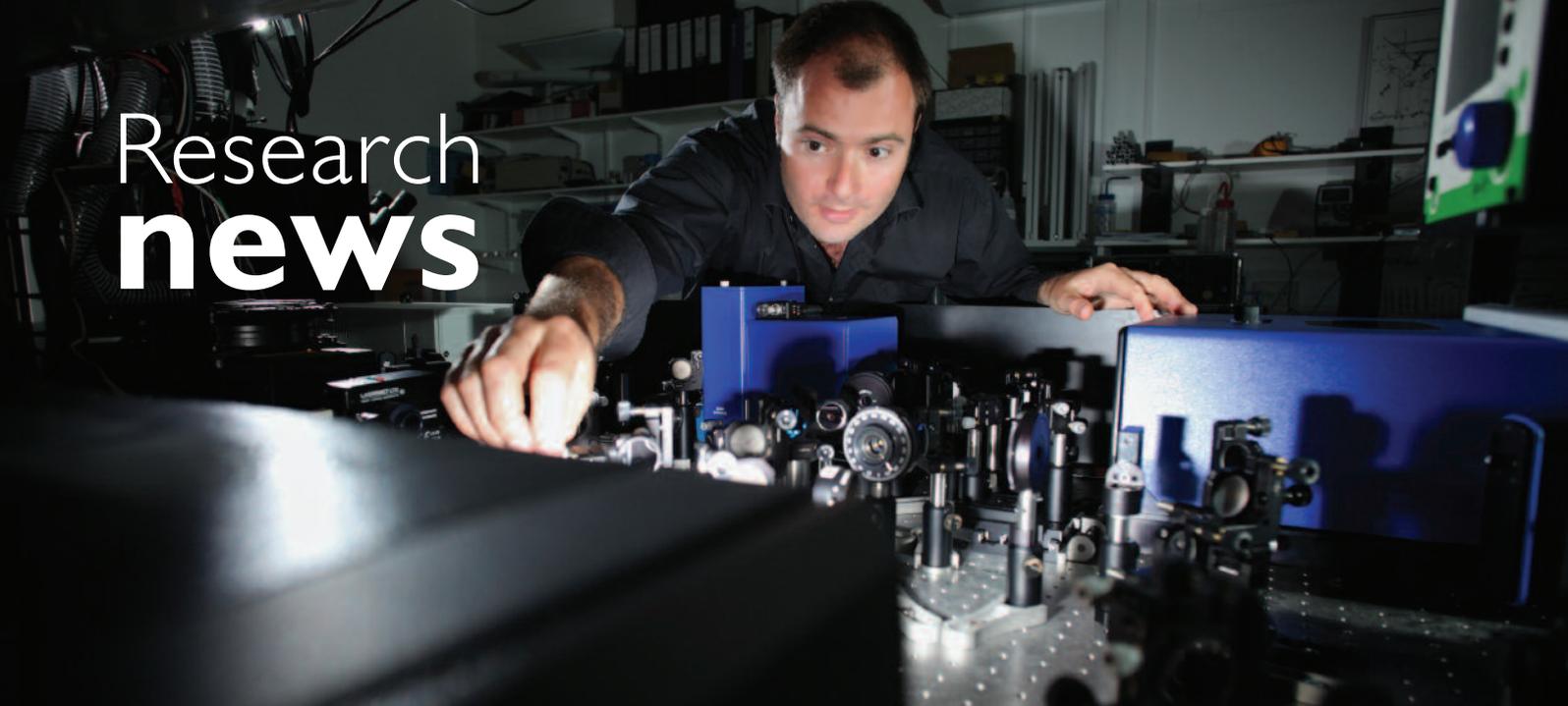
The coveted award was a significant vote of international confidence in the test. More than 3,000 proposals for funding were made to the Foundation and only 81 were successful. Thanks to the grant award, Professor Newman, together with his team, is working on creating a handheld version of the test for further testing in the field.

'Winning this grant was wonderful news for us,' he says, pointing out that having an easily transportable test is vital. 'The ideal situation would be for the test to be so small, solar-powered and easy-to-use that a health worker travelling on bicycle could use it. Potentially we could equip health workers throughout malaria-infected areas in the developing world with these devices at a relatively low cost. We could potentially save many, many lives.'

FACT FILE: **Malaria**

Malaria is caused by a parasite of the Plasmodium species transmitted from the blood of an infected person and passed to a healthy human by the bite of a female Anopheles mosquito. The malaria parasite first became known to the world in 1880 when Charles Louis Alphonse Laveran identified it in the blood of infected soldiers.

Research news



^ Dr Julian Moger, seen here in the laboratory, is researching how smart nanodrugs can be developed.

Smart drugs for brain disease

Groundbreaking research at Exeter is helping develop smart nanodrugs to treat brain diseases like schizophrenia. Dr Julian Moger, from the School of Physics, is working on new techniques for delivering these drugs. The researcher has developed a new optical imaging technique to monitor the transport of particles less than one thousandth of a millimetre in size within biological tissues.

World's largest turtle population

An international team of scientists led by researchers at Exeter has identified Gabon, West Africa, as having the world's largest nesting population of leatherback sea turtles. The research, published in the May issue of *Biological Conservation*, involved countrywide land and aerial surveys that estimated a population of between 15,730 and 41,373 female turtles using the nesting beaches.

Why people fall victim to scams

New research by the University of Exeter on behalf of the Office of Fair Trading reveals the psychological reasons consumers may fall victim to mass-marketed scams. The study provides a valuable insight into why consumers fall victim to scams, as well as the psychological techniques used by scammers to con the UK public out of an estimated £3.5 billion every year.

Turning waves into power

The ambition for Cornwall to become a world-leading centre for wave energy has moved a step closer to reality with the launch of a two tonne (2000kg) buoy off the coast of Falmouth. Developed by a team at the University of Exeter, the South Western Mooring Test Facility (SWMTF) buoy is a world first. It will gather detailed information to help inform the future design and development of moorings for marine energy devices.

University museum gains national standard

Exeter's Bill Douglas Centre for the History of Cinema and Popular Culture has successfully achieved full accreditation status from the Museums, Libraries and Archives Council. The standard is only awarded to museums that meet a series of tough guidelines. Meanwhile, film scholar alumnus Dr Robin Allan, author of 'Walt Disney and Europe' has generously donated a new collection of Disney material to the museum. The artefacts and transcripts collected provide students with a unique resource for future research.

World-class researchers at the University of Exeter are making major contributions to our understanding of our world and problems such as poverty and climate change. For more on research at Exeter, see www.exeter.ac.uk/research

The distinguished scholar

Walk into any embassy in an Arab or Islamic country and you are likely to encounter a former student of Professor Tim Niblock. His former students include alumni who are now leading diplomats, politicians, journalists and academics across the Middle East and Africa. As a teacher, writer, and academic, few individuals have done as much as Tim over his forty-year career to increase our understanding of the culture, society and life of the Arab world.

Many students at the University of Exeter will have fond memories of working with or being taught by Professor Niblock. Tim was instrumental in setting up the academic direction of the Centre of Arab Gulf Studies at Exeter.

Tim's research interests cover a wide range of areas related to the politics, economics and international relations of the Arab and Islamic world, stretching from Sudan to Oman, and from Palestine to South-East Asia and China.

During an academic career that has spanned four decades, he has made a major contribution to research in his field. He has written or edited 21 books, more than 60 articles and chapters, and presented in excess of 100 papers at international conferences across the globe.

The Middle East expert has been one of the world's main authorities on politics of the Gulf since the 1980s. His writings on Iraq, Sudan, pariah states and the Gulf, culminating in the publication of his volumes on Saudi Arabia (2007-2008), are widely respected across the world.

Tim has also built a reputation for being a teacher who cares. He has supervised a large number of successful PhDs during his career. He taught at the Department of Politics between 1982 and 1993, where he established Europe's first Master's programme in Middle East Politics.

After six years at Durham, where he resuscitated that university's Institute of Middle Eastern & Islamic Studies, he returned to Exeter in 1999 as Founding Director of the Institute of Arab and Islamic Studies (IAIS). The department has since trebled in size.





<Professor Tim Niblock has had a distinguished academic career in which he has made major international contributions to increasing understanding of the Middle East.

'It is rewarding to be able to assist in moulding and remoulding attitudes to the Arab region and laying a basis for enhancing understanding between Britain and Arab countries,' says Professor Niblock.

His contribution was recently recognised when he was named as the recipient of the prestigious Arab-British Culture and Society award. Few academics have ever been granted the award, which is given to those individuals who have made a major contribution to public understanding in Britain of the Arab world.

'The award is important to me, because it is the first time any academic has reached the ten person shortlist for the awards, let alone be one of the three who were given a special commendation,' he says. 'I also see this as indicating appreciation of the wider activity of the Institute of Arab and Islamic Studies.'

Academic reputation apart, it is the personal affection and respect of so many alumni and colleagues around the world that really marks Tim's achievement. Although he formally retired in September 2008, thankfully he is not really leaving Exeter; he remains very much engaged in PhD supervision and the work of both the Institute and the University at large.

Several of his former students, along with the University, wanted to honour Tim's contribution to the institution and to the lives of his many students and colleagues. Exeter is doing this by starting a scholarship fund in the name of Tim and that of his beloved wife Rida, who passed away in 2002.

Each year, the Tim & Rida Niblock Scholarship Fund will help enable Masters students to study at Exeter, particularly Sudanese students. Sudan has a special place in Tim's heart. Rida was Sudanese and she and Tim both spent much of their early academic careers in Sudan.

The University's aim is to raise enough resources to continue this scholarship for at least ten years, with the hope that it is possible to extend this in the longer term. Gifts of all sizes are welcome, as the very smallest to the largest will contribute to the success of the Fund. For more details on the Fund, please contact Suzie Bannerman on +44(0)1392 269011 or email s.n.bannerman@exeter.ac.uk

Sharing talent





It was great to be back at Exeter, seeing what has changed – and what has stayed the same – since I graduated,’ says alumnus Simon Greenberg (History 1990). Simon, who is the Communications and Public Affairs Director at Chelsea Football Club, returned to the University of Exeter earlier this year to share his expertise and talents with current students.

The 39-year-old was the keynote speaker at the School of Sport and Health Sciences’ career day in February. He gave his speech to a packed lecture theatre at the University’s St Luke’s campus, providing the students with essential advice and insider tips on how to succeed in their careers. Reflecting on the experience of returning to Exeter, he says: ‘I am pleased to say the nightclub Timepiece is completely unchanged. I had a chance to meet some motivated and interesting students, and was even interviewed for the student newspaper.’

The day was a unique opportunity for students to hear first-hand careers advice. Simon is a former award-winning newspaper journalist who is responsible for public relations and communications at Chelsea FC – one of the world’s most famous football clubs. Before joining Chelsea, Simon worked with the *Evening Standard*, the *Mail on Sunday*, and the *News of the World*. During his journalism career, he won Sports Reporter of the Year and Sports News Reporter of the Year in 1995. He also recently graduated from the Advanced Management Programme at Harvard Business School in the United States (2008).

He adds: ‘As well as doing a presentation, I had a chance to talk with students informally about my career. The students seemed to enjoy it, and I would definitely recommend to other alumni that they go back to Exeter as volunteers.’

Simon is one of a growing number of alumni who are returning to the University to share their talents and expertise with the current generation of Exeter students. During 2009, 73 alumni have volunteered their time to improve employability prospects for students through a range of activities.

Sharing talent

Last year, the University's graduate-level employment rate increased to 72%, up from 68.5% in 2007. In today's ever-competitive higher education marketplace, this is becoming an increasingly important measure of the University's performance for potential students. Exeter's improving performance in this area during the current global economic downturn has been driven by the constant development of new initiatives to help the employability of Exeter students. The increased involvement of alumni in career-building initiatives is at the heart of this success.

For example, the Widen Your Options Week in February 2009 saw nearly 20 alumni, including Simon Greenberg, return to the University over a three-day period as careers speakers. The volunteers included those working in a wide variety of professions and at different stages in their careers: including a clinical psychologist, a managing partner and a business development executive. A number of alumni also participated in mock interview days and as law careers speakers at the University during March.

For the first time, a special event was organised by the Development and Alumni Relations Office in March to provide direct careers advice to finalists in the Class of 2009. Called Life After Exeter, the event brought students and alumni face-to-face. At the event, students were able to talk to alumni representing different parts of the UK about life after University in terms of living and job prospects.

In May, alumni took part in a Middle Eastern Careers Day staged at the University's Institute of Arab and Islamic Studies. Among the speakers was BBC Security Correspondent Frank Gardner (Arabic & Islamic Studies 1984) who gave students an insider's account of the realities of life as a foreign correspondent.

As these examples illustrate, the University is focusing on this area to secure investments of time and expertise from our alumni to assist students. In 2008, the University was one of the first in the UK to create the new post of Alumni Volunteer Officer to drive forward its volunteering initiatives. Clare Pearce, who has extensive experience in the higher education sector, was recruited as Exeter's Alumni Volunteer Officer to help enlist alumni to support the employability of students.



'As part of its commitment to improve graduate employment, the University is engaging alumni in a range of professions to support students and other alumni as they develop their careers,' says Clare. 'This includes, for example, alumni participation in careers events, mock interviews, seminars and panel discussions focusing on employment.'

In June 2009, a pilot mentoring project was launched which will bring together alumni, students and the business community. Under the scheme, students will be matched with alumni volunteers to provide them with specific career support and advice.

Meanwhile, a number of other projects are helping Exeter students improve their employment prospects. One of the most popular has been an award designed to promote student employability. Called the Exeter Award, it was launched last year. The award gives recognition to students for the activities in which they take part outside of their degree courses, such as volunteering in the community.

As part of the University's international focus, Exeter is expanding support to students to give them the skills they will need to succeed in a global employment market. This summer, the China University of Political Science and Law (CUPL) in Beijing hosted a group of students from Exeter at a summer school.

This excellent project will play a small, but important, part in strengthening the cultural, research and educational ties between the two countries.



Interview:

Dr Elena Isayev

△ Dr Elena Isayev is a historian of ancient Italy and a researcher into material culture. In the 2008 Research Assessment Exercise, Exeter's Department of Classics & Ancient History was ranked third in the UK.

We think our modern world is flat, using a phrase famously coined by Pulitzer Prize winning journalist Thomas Friedman: a world that is global. In contrast, we tend to think of the ancient past as being rather parochial: a time where people were born, lived and died in the same place.

But what if the people who lived in the ancient world were more comfortable with mobility than we are today? This is the question being posed by Dr Elena Isayev, a historian who uses a variety of tools from archaeological evidence to theoretical models to understand our ancient past. The resulting interdisciplinary projects she has worked on have allowed her to conduct excavations in Italy and Kazakhstan.

Recent studies provide staggering statistics: by the end of the first century BC, some 40 per cent of adult Roman males lived in a different place to where they were born. The United Nations estimated that by 2002 some 185 million people lived outside their country of birth for at least 12 months - just over 2 per cent of the world's population. In ancient Italy we hear of mass population movements from the historians of the Late Republic: Livy records that in 177 BC Samnites and Paelignians were complaining that 4,000 families from their territory had moved to Fregellae. Just three years earlier, in the wake of the Hannibalic War, some 40,000

Ligurians from the North were forcibly transferred to Hirpinia in South Italy. These events need to be taken in context of ongoing individual movements that were carried out by choice – the ongoing hum of mobility that pervaded this period. As Dr Isayev explains, it is therefore not surprising if we find that there were times in the ancient past when there was an expectation of mobility, when control had less to do with movement, but instead focused on entry into certain types of status, such as citizenship – which was not restricted by national borders. 'We tend to regard stability as the norm and movement as the aberration,' says Dr Isayev, a researcher at the University's Department of Classics & Ancient History who co-directs the Migration Network.

'But what if it was the other way around? What would be the impact on the historical analytical framework if we begin with the premise that spatial mobility is a constant? What if staying in one place was not the historical norm for humankind? How does that then change our connection to places of origin and their impact on our identity?'

She will investigate these issues in the coming year as a Davis Fellow at Princeton. The potential consequences of Dr Isayev's research are game changing. Her work sheds new light into the effects, causes and perception of human migration as it has

developed over thousands of years, whether as a result of geography, climate, persecution, or the search for a better life.

'Nation state immigration controls and the assumption of non-permeable borders can be seen as preventing a natural state of migration and movement' says Dr Isayev, 'which potentially has a large number of consequences of how we view the world and the role of migrating people'.

When Dr Isayev embarked on her academic career, bringing together ancient history and material culture was a new direction for the academic community. Now there is a growing network of academics investigating this area. This has allowed her to access histories of groups that have not left their own written record: communities of pre-Roman Italy or elusive ancient youth. Her current interest also concerns the impact of the physical world on bonds between memory and place. She is leading a team of academics, visual artists and musicians to attempt to gain a better insight into this aspect of the past. The project, entitled *De-placing Future Memory*, is supported by the Arts and Humanities Research Council (AHRC), as well as the Exeter Migrations Network. It will host an exhibition and a performance in October 2009.

Inspiring nature

The natural world is full of inspirational designs,' says Professor Pete Vukusic, of the University of Exeter's School of Physics, pointing to the picture of a rather unique beetle on his computer screen. The beetle is the Cyphochilus beetle. And it is unusual because of its brilliant whiteness.

Not only is the beetle's whiteness hauntingly beautiful, it is also a clear indication of how natural systems are full of innovative designs, and it is inspiring scientists to develop brilliant white paper.

It is believed that the beetle evolved its brilliant white shell to act as camouflage against predators in its native habitat of south-east Asia. Local fungi in this area are white, so having a white shell helps the beetle remain hidden.

'Much of the design has evolved to serve key biological functions,' adds Professor Vukusic, who is leading a team at Exeter that is investigating the huge diversity in the way whiteness is produced in the plant and animal world.

More than two years ago, research by Exeter and Imerys Minerals Ltd and published in the journal *Science* showed that the beetle produced its brilliant whiteness by using a unique surface structure in its shell. An important element of the beetle shell design is that its scales are very thin. In fact, the beetle's scales are ten times thinner than human hair, at one 200th of a millimetre thick.

New research has now revealed that it is possible to mimic the beetle's shell





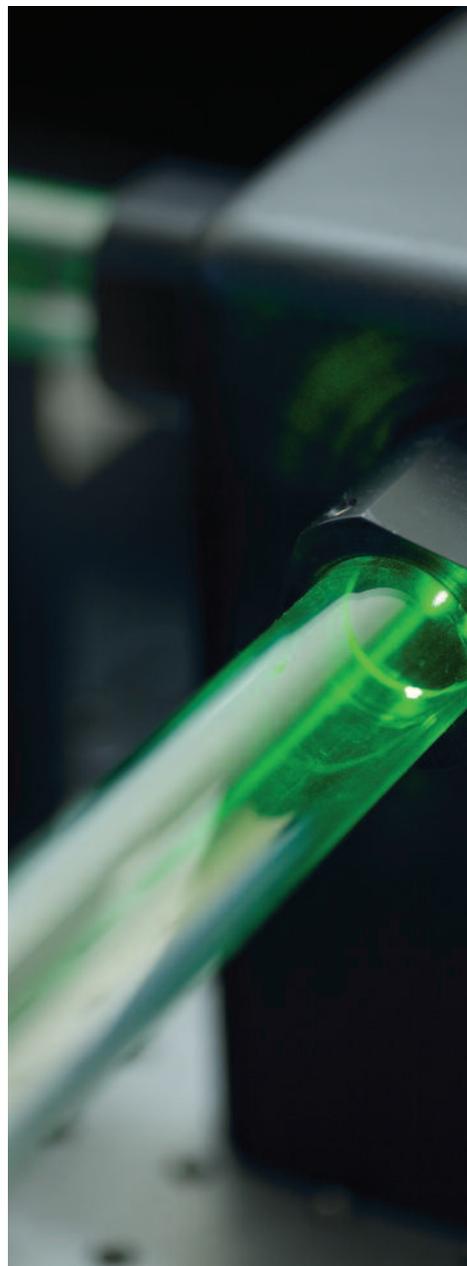
▲ The brilliant white shell of the Cyphochilus beetle is inspiring the development of new paper. Photos courtesy of Professor Pete Vukusic.

structure artificially to produce coatings for white paper. The secret of producing a brilliant white paper is in the design of the mineral particles that make up the surface coating.

The industrial applications of this world-leading research are far-reaching. Up until now, good quality white paper has been produced by applying a coat of white mineral particles such as kaolin and calcium carbonate. However, research has shown that it is possible to mimic the structure of the beetle's shell by using revised processing and mineral selection techniques.

The resulting paper not only has more whiteness, it is also much lighter than conventional paper. Lighter and brighter paper has many advantages. The cost of transporting lighter paper is much less, making it cheaper to produce and more environmentally friendly.

Professor Vukusic is very excited about the many inspirational ways in which nature creates brilliant whiteness. He and a team of researchers believe that as well as the Cyphochilus beetle, there are many other natural systems that produce ultra-whiteness that are still to be discovered. 'There are a great many other natural systems awaiting discovery or detailed study that will certainly do the same,' he adds.



Brilliant white

Colours are produced either by pigmentation or by structures and layers. It is a little-known fact that whiteness is created as a consequence of the 'scattering' of all colours at the same time due to a random structure. Research has shown that long flat scales cover the shell of the Cyphochilus beetle. These scales are made up of highly random internal 3D structures. The irregular form of these scales, together with the spacing between them, scatters light very efficiently. The shell therefore appears as a brilliant white.

Finding lessons from the past

Hollywood blockbuster movies typically depict a future blighted by dramatic temperature rises, devastating floods and destructive storms. We assume these are features of a future wrecked by climate change. But University of Exeter Professor Chris Turney is seeking to change this common perception. As he points out, climate change is not only part of our future; it's our past.

The planet and past fascinate Professor Turney, an award-winning geologist who is passionate about investigating the earth below our feet. His research into past climate change is helping us predict what the future may hold in store.

'By a series of accidental turns and a healthy dose of serendipity I have ended up investigating the past,' reflects Professor Turney, who is effectively a global geological investigator and time traveller.

He looks at evidence from fossils, mud and ancient trees in locations around the world to see what happened in the past. His research has taken him to exotic locations, from New Zealand to Europe on the trail of the past.

'The passing hands of nature's clock are vital for my work', he says. 'I'm fascinated by what makes our planet tick and have spent my research career exploring what happened when.'

As well as undertaking world-class research, Chris is also a teacher, blogger and author of two popular science books. The academic's latest book, called *Ice, Mud and Blood: Lessons from Climates Past* looks at what happened to the Earth's climate in the past and what this could mean for the future. *The New Scientist* magazine has described the book as 'a sobering and vividly told tale'.

His first science book, *Bones, Rocks and Stars: The Science of When Things Happened*, is an accessible look at a series of dating controversies such as when the Pyramids were built or the dinosaurs died out and shows how science can answer them. It details how techniques such as DNA sequencing, carbon, tree rings and pollen enable experts to tell the time.

Chris is accustomed to public interest in his work. In 2004, while based in Australia, he hit the headlines after he performed radiocarbon dating on the so-called 'Hobbit' fossil of Flores, in Indonesia. The miniature humans, with skulls no bigger than a grapefruit, lived around 18,000 years ago on the island, alongside giant Komodo dragons and pygmy elephants. The discovery of skeletons of a new species of human attracted intense international media interest. 'It was a very exciting time to work on the Hobbit fossil project. The public interest it generated in science was amazing', says Chris.

Chris came to Exeter in 2007 from the University of Wollongong, Australia. Asked why he decided to come to Exeter, he enthusiastically adds: 'I jumped at the opportunity. The University is very ambitious and I like that a lot. I am particularly impressed by the way in which researchers across disciplines are working together to look at big issues like climate change.'

Since arriving at Exeter, Professor Turney's work has attracted widespread recognition. In 2009, he was awarded the Bigsby Medal from the British Geological Society for eminent services to Earth Sciences.

The prize is the latest award to grace Professor Turney's mantle. In 2007, he received the Sir Nicholas Shackleton Medal for pioneering research into past climate change and dating the past. Last year, he was the recipient of a Philip Leverhulme Prize for contributions to understanding the evolution of the Earth's climate over the last 50,000 years.

He adds: 'I am extremely lucky. How many people can say their job is also their passion?'

Award-winning academic Professor Chris Turney is passionate about learning > lessons from the past. Photo courtesy of Greg Totman, Illawara Mercury.



The support of donors is set to help alumni return to the University as volunteers. Under a new initiative, a Volunteer Support Fund is being established to give support to alumni who carry out volunteering activities. The fund will provide travel and accommodation expenses to alumni who are helping students with their careers.

Philanthropy with impact

The Volunteer Support Fund is just one of a number of projects being funded by the Annual Fund. Around £80,000 donated to the Annual Fund by alumni and supporters of the University will be handed out to a wide range of projects this year. Alumnus Steve Edge (Law 1972), a Partner specialising in corporate tax law at Slaughter & May, praised the creation of the scheme. Steve says: 'There is an amazing wealth of experience in the alumni community and I would urge other alumni to come back and share their experiences. As a volunteer and a donor, I'm pleased that the new Volunteer Support Fund will enable students to get advice from alumni in a range of different careers.'

'The fund allows alumni to focus on giving their time by allowing the University to provide accommodation and travel expenses if needed.' Alumna Ruth Lovell (English 2006), a BBC broadcast journalist, who herself is an active volunteer, believes that the Fund is an excellent way to support alumni volunteers.

'I think it is an excellent idea,' says Ruth. 'I am sure there are many alumni who would like to help the University and students. Providing alumni with support to help them volunteer is a fantastic way of helping them make a difference to students.'

Alumna and broadcast journalist Ruth Lovell, the former Station Manager at Exeter's FM Radio station – *Xpression FM* – returned as a volunteer to help students with their employability.



Ruth began her career working with BBC Radio Devon, putting into practice the experience that she had acquired as a student Head of News and Station Manager for the University of Exeter's FM Radio station - Xpression FM. Her career path has now taken her to work for BBC Somerset where she produces the breakfast show and continues to build on her experience of radio journalism.

Ruth has returned to the University as a volunteer on a number of occasions to provide an insider's view into the exciting and changeable world of radio broadcasting and share her first-hand tips for success.

'I really enjoyed it,' says Ruth. 'It was lovely coming back to the campus and seeing all the buildings again and also being around the students. Things never really change. I felt as though I was back home. It reminded me of my own time as a student. At any time, I expected someone I knew to walk around the corner.'

'It is great to have the opportunity to give something back. I was very pleased to see that the University's Radio station - Xpression FM, where I was Station Manager, is doing so well.'



Annual Fund projects

The Annual Fund is supporting 19 projects across the University this year. They include: student mentoring, support for international students, the purchase of a new fleet of boats for the University's Sailing Club and the development of student allotments at the Cornwall campus. A disbursement panel made up of students, donors and University staff selected the projects that are being supported.



Cricket stars of the future

Sports scholar and cricketer Becky Williams is one of a new generation of cricket stars of the future. The talented sportswoman is benefiting from expert coaching and training advice during her studies at the University of Exeter. Cricketers like Becky are now benefiting from world-class training facilities at a recently opened £2 million cricket centre.

The Sir Christopher Ondaatje Devon Cricket Centre officially opened this summer. The centre is an 800 square-metre facility, which boasts four indoor nets, four specialised bowling machines, indoor game space and a video analysis suite to assess players' technique.

Former England star Mike Gatting attended the opening of the centre, which is named after Sir Christopher Ondaatje, an Honorary Graduate of the University of Exeter and a benefactor, who generously donated £250,000 to the facility.

Becky, who is the current women's cricket scholarship student, believes that the new cricket centre will make a huge difference to cricket at Exeter. 'It will provide a good facility to train and improve skills,' she says. 'It will be easier and more beneficial to train in a facility built specifically for cricket.'

As well as a new training facility, alumni philanthropy enables the University to provide a wide range of scholarship and coaching support. Exeter alumni, Jenny and Stephen Harrow, are funding a scholarship to support talented female cricket stars of the future like Becky.

Thanking Jenny and Stephen for their support of cricket at Exeter, Becky says: 'I think the new scholarship will provide a sound investment for the sport and the athlete and enable them to tap into any outside resources they may need to further their abilities. I think it shows the work ethic that students at Exeter have to offer and also the willingness there is to help Exeter and athletes.'

Alumni Professor Jenny (Politics 1968) and Stephen (History 1967) Harrow say: 'We were very glad to be able to lend our name in support of a women's cricket scholarship at Exeter; and look forward to seeing the important benefits that this can bring to women's cricket at Exeter and in the wider regional community.'

'There isn't a better time to be promoting the sport, with the inspiration of the huge achievements of the England Women's team: World Champions - and not just in the Twenty20 game. The University, with its extensive community links, is the ideal focus.'

University of Exeter alumnus John Wakely (Economics 1978) is also helping to fund a cricket coach at the University. He says: 'During my time as a student at the University of Exeter I played golf for the University, but cricket for the Cullompton Cricket Club, as my parents had retired down to Devon. I played with the club for several seasons and I recognise how important village cricket is for local communities. As a result, I was very pleased to see that the cricket centre serves not only the University but also the local community.'

The England and Wales Cricket Board (ECB) has provided £1.5 million of funding towards the £2 million Centre from the Club Community Development Programme, comprising government funding and managed by Sport England. Lord's Taverners, Devon County Cricket Club, Marylebone Cricket Club and the Devon Cricket Board have offered additional support.



< Becky Williams is one of a new generation of cricket stars of the future.

> The new cricket centre provides a first-rate facility for Devon's aspiring young cricketers, clubs and teams as well as the University's cricketers.

Diary

2009 / 2010

Events in the United Kingdom

Business School Alumni Group Reception

3 November 2009

Willis, Lime Street, London

Join alumni and academics with links to business and the Business School for networking and a reception. Contact business-school-alumni@exeter.ac.uk to reserve your place.

Arts and Media Alumni Reception

25 November 2009

Ofcom, Riverside House, London

Join alumni working in the creative industries for networking. Always a popular alumni event, places are expected to go quickly. If you would like to attend this event, please contact angela.evans@exeter.ac.uk

London Lemmy

November 2009

Shepherd's Bush Empire, London

London Lemmy is a club night run by alumni for charity. Tickets will be on sale in October. For more information, see www.londonlemmy.com

Law Alumni Reception

10 February 2010

Freshfields, Fleet Street, London

Join alumni, academics and other professionals with links to law for networking and a reception. Contact angela.evans@exeter.ac.uk to reserve your place.

Climate Change Reception

23 March 2010

Adam Room, Lloyd's, One Lime Street, London

Join alumni and world-leading academics for a discussion on the latest thinking on climate change, following by a reception and networking. Contact angela.evans@exeter.ac.uk to reserve your place.

International Alumni Events

Taiwan Alumni Reception

10 November, 7pm

Grand Hyatt, Taipei

Thailand Alumni Reception

12 November, 7pm

Oriental Hotel, Bangkok

Malaysia Alumni Reception

13 November, 7pm

Mandarin Oriental Hotel

Kuala Lumpur

Join us to hear the latest University news and network with other alumni and friends. To book a place at any of these events and for further information, contact stephanie.ganeson@exeter.ac.uk or ring +44(0)1392 262016.

Forging links with China

The University of Exeter is developing new research and teaching links with a number of leading Chinese universities. With more than 500 students studying at Exeter, China is the University's single biggest overseas market. The University has students from more than 100 countries; so Chinese students are part of an increasingly internationally-diverse student population.

A delegation to China led by Exeter's Vice-Chancellor Professor Steve Smith recently visited universities in Shanghai and Beijing, including top ranked institutions Fudan University (Shanghai) and Tsinghua University (Beijing). Reunions were also held with over 200 Exeter alumni living in China. Links established with other Chinese universities include:

- East China Normal University, Shanghai, where a pan-institutional Memorandum

of Understanding has been signed with Exeter. ECNU is one of China's leading universities and is generally considered to be ranked top for Education and Environmental Science, which are strong areas of research at Exeter.

- China University of Political Science and Law, Beijing, which is regarded as number one for Law in China. A pan-institutional Memorandum of Understanding has been signed with Exeter. Exeter has also been awarded prestigious Prime Minister's Initiative funding to establish a summer school with CUPL.



^ Alumni reception May 2009 at The Peninsula Hotel, Beijing, People's Republic of China.

For details about University events see:
www.exeter.ac.uk/news/whatson.shtml

For information about events for alumni see:
www.exeter.ac.uk/alumni