IN THE EYE OF THE STORM WITH PLYMOUTH’S COASTAL SCIENTISTS

UNIVERSITY SIGNS CITY DEAL WITH PARTNERS

NATIONAL RECOGNITION FOR BRAIN TUMOUR RESEARCH

PLYMOUTH GRADUATE GOES GLOBAL IN AMBASSADORIAL ROLE
WELCOME

It’s been quite a start to the New Year for the South West. From the landmark City Deal, which gives the peninsula greater control over its future economic direction, to the succession of storms that reminded everyone that there are some things you simply cannot dictate, the region has experienced somewhat contrasting fortunes.

In this edition, we discover how the University has been at the heart of both of these developing stories. We talk to those senior leaders who played a key role in the formulation of the City Deal and ask how it will benefit the institution. And we meet a flying team of storm chasers, who are braving the elements to produce perhaps the clearest picture yet of how storms are shaping our coastline.

We also bring you interviews with a range of Plymouth people working in different fields, including the global exploits of Henry Evans, and Professor Richard Thompson.

Enjoy the issue.

Andrew Merrington
Editor

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A MESSAGE FROM OUR VICE-CHANCELLOR

Professor Wendy Purcell
Vice-Chancellor

Working in partnership with others is key to our mission to transform lives through education and research. I am therefore delighted that our Medical School PUPSMD is to become an active research and fundraising partner with the Brain Tumour Research charity, featured here. We also see how the Environmental Building Group in the School of Architecture, Design and Environment are reaching out to connect with regional companies to further their research and course development.

With the University a lead signatory amongst a host of regional partners, I was thrilled to see the Plymouth City Deal gain national approval. Drawing on our enterprise mission, our world class credentials in marine and maritime research and programmes, the City Deal has adopted our Growth Acceleration and Investment Network (GAIN) to drive innovation throughout the region.

While the dreadful weather has challenged us all in different ways, it was interesting to learn that our own team of storm chasers have been hard at it assessing the impact of storms on our coasts. And if we need reminding about the fragility of our environment, it is great to see how our alumnus and Global Ambassador Henry Evans has been touring the world, (occasionally dressed as a penguin), inspiring the next generation with his remarkable South Pole Expedition story and lessons around protecting our planet.

Enjoy 🎉

Professor Wendy Purcell
Vice-Chancellor
PLMOUTH JOINS THE ELITE OF BRAIN TUMOUR RESEARCH IN NEW COLLABORATION

It was in the Speaker’s House at Westminster that Plymouth was heralded among the country’s elite for brain cancer research.

In front of an audience of patients, carers, MPs, scientists, clinicians and charities from across the UK, a groundbreaking partnership between Plymouth University Peninsula Schools of Medicine and Dentistry (PUPSMD) and the charity Brain Tumour Research was launched – opening up a new chapter in the fight against the biggest killer of children and adults under the age of 40.

The Westminster announcement on 4 March confirmed PUPSMD’s status as a Centre of Excellence for brain tumour research, one of just four alongside Portsmouth, Queen Mary University of London in collaboration with UCL Institute of Neurology, and Imperial College Healthcare NHS Trust (London). It means Plymouth will now become an active research and fundraising partner to the charity, which will supply dedicated members of staff to work alongside the University.

Professor C Oliver Hanemann, Director of the Institute of Translational and Stratified Medicine, and a world-renowned expert on low-grade brain tumours, led the delegation from Plymouth and is the academic lead for the project.

“It’s fantastic to be partnering with Brain Tumour Research and an appreciation of our track record and our bench-to-bed team,” Oliver said. “A funding strategy to support low-grade tumours is so important in the challenge to understand this condition. Based on our existing track record, we will be able to build an advanced bench-to-bedside translational medical research programme for low-grade brain tumours. Results from these genetically well-defined ‘simple’ brain tumours will also be invaluable for more genetically complex high-grade ones, complementing research in other brain centres.”

With the aim of investing up to £20 million across the network over the next five years, the March event signalled the start of a mission to establish seven Research Centres of Excellence across the UK, building a ‘critical mass’ of specialist teams and aiming to bring Britain to the forefront of brain tumour study.

Long-term funding ensures that key salaried positions are covered, so researchers at PUPSMD will be freed from the usual cycle of applying for one specific project grant after another in favour of sustainable and continuous research. And it means that a new generation of scientists can be trained up through the ranks to fulfill their potential, rather than being tempted into other cancer research that attracts greater funding. It’s also hoped that it will encourage researchers to move between the centres to encourage cross-pollination of the very best thinking.

“It’s undoubtedly great recognition for Plymouth and for PUPSMD and the expertise we have here,” Oliver added. “Our work with testing new drugs in human primary cell cultures and translating them quickly into clinical trials is seen as a particularly innovative step, and one which could lead to stratified/personalised drug treatment for patients.”

The University underwent a rigorous selection process ahead of being chosen that included review by an international scientific panel and a site visit.

Christian Burden, Director of Development and Alumni Relations (DARO), one of the teams that supported PUPSMD on the bid, said the partnership would see DARO and External Relations working to raise the profile of Brain Tumour Research in the region. He said: “By bringing creative ideas into the process, we were able to offer a package of support that backed up the world class research pedigree of Oliver and PUPSMD. There’s the potential now to involve a number of other community partners in this work, which is tremendously exciting.”

There was one very special University guest at Speaker’s House, whose personal perspective was highlighted in the last edition of CONNECT. Graduate April Watkins recovered from a brain tumour in her first year of study to secure a 2.1 in Sociology last September. She said: “It’s fantastic that my University has been chosen to partner with Brain Tumour Research. I have been incredibly fortunate in my recovery but there are so many others who sadly do not survive and more research is desperately needed.”

“By bringing creative ideas into the process, we were able to offer a package of support that backed up the world class research pedigree of Oliver and PUPSMD. There’s the potential now to involve a number of other community partners in this work, which is tremendously exciting.”

Professor C Oliver Hanemann with Paola Simoneschi, Trusts and Foundations Manager in DARO (left), and April Watkins (right)
A NEW DEAL FOR THE SOUTH WEST – AND THE UNIVERSITY

It’s been hailed as a landmark development for the region; a game-changer with the potential to create 10,000 jobs, grow 25,000 businesses and leverage nearly £300 million worth of private funding into the region over the next 15 years.

“The exciting thing about the City Deal is that it’s something that gives the whole peninsula the opportunity to take greater control of the policies that will influence local economic growth, with Plymouth University right at the heart of so much of it,” said Professor Wendy Purcell, Vice-Chancellor, who signed the deal on behalf of the University in January.

“Its focus is upon empowering the South West to become a global leader in the marine sector and a centre of world-class enterprise, innovation and knowledge. Its aim is to create a network of marine clusters, both physical and knowledge-based, as part of a wider growth hub of business support, skills and job creation that adds value to, and coordinates with, business support across the region.”

The Plymouth and South West Peninsula City Deal was among the first of the second wave to be confirmed by the government. Covering six top tier authorities and 12 districts, including two Local Enterprise Partnerships, it has three main strings to its bow.

The first revolves around skills with a £3.5 million package to help young people into the workforce. Then there’s business support, with around £6 million worth of funding being channelled through the Growth Acceleration and Investment Network (GAIN), which the University co-founded. The third, and most complex, is the land element, with the release of 32,400m² of Ministry of Defence land at South Yard in Devonport. It will be on this prime location that the city will work to establish a ‘marine industries production campus’.

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“It is a significant tranche of land, with fantastic access to deep water,” said Professor Julian Beer, Pro Vice-Chancellor (Regional Enterprise). “And that will be hugely attractive to a whole range of businesses connected to the marine sector, from advanced engineering to renewables and the supply chain.”

It is hoped that this marine campus will be a significant incentive for businesses to set up or relocate to the area, especially when you factor in its proximity to the region’s research and development facilities, such as the COAST Lab in the University’s Marine Building, FaBTest in Falmouth and Wave Hub off the coast near Hayle. It will be, in Julian’s words, a “game-changer” in terms of what the region and the University can offer.

“Historically we have been very good in this country at leading in R&D, but poor in taking advantage of commercial opportunities,” Julian said. “We led the way in developing off-shore wind energy but failed to capitalise on it and saw Denmark and Germany steam forwards with the commercialisation.”

“What this campus will enable us to do therefore is offer a complete package here in the South West: you come to the Marine Building to do your testing, and then you stay here for the manufacturing – and it is in the manufacturing that we can create really significant numbers of jobs.”

The City Deal also represents a seal of approval for the model of enterprise support that the University has been pioneering in the last five years. “It’s a legitimisation of the Growth Acceleration and Investment Network,” said Adrian Dawson, Head of GAIN Partnerships. “It is now the vehicle for City Deal’s entrepreneurial, innovation and enterprise work, and is held up as an exemplar growth hub model by the government – and that is a tremendous compliment for the University.”

Adrian, along with Richard Adams (Corporate Projects Manager), has overseen a recruitment programme to increase the core GAIN team so that it has greater capacity to work with businesses and stakeholders across Devon, Somerset and Cornwall. The team will deliver a new business information, advice and referral service to help companies across the region access the right support to grow and develop new ideas. It will also establish a network of partnerships, helping to create opportunities for businesses to work together, or with universities and other public bodies.

“We do a lot of business with local authorities and this is something that will enable us to really significantly increase the number of businesses we can work with,” said Julian. “It is now the vehicle for City Deal’s entrepreneurial, innovation and enterprise work, and is held up as an exemplar growth hub model by the government – and that is a tremendous compliment for the University.”

“This is very much about a university playing the role of anchor institution, in line with the government’s Willy Review,” added Wendy. “It’s enterprise in action.”
THE EYE OF THE STORM

The log entry (left) from Professor Gerd Masselink, recorded at 5am on the beach at Hayling Island during the St Jude’s storm on 28 October 2013 provides an insight into the remarkable work of a team of academics who’ve earned themselves the nickname of ‘the storm chasers’.

The Coastal Response Unit, based within the School of Marine Science and Engineering, has for the past two years been monitoring the impact that storms are having upon beaches around the country. And, as the South West can testify, business has been brisk this winter.

“We’ve seen easily the most energetic wave conditions since the 1950s,” said Gerd, who leads the unit with long-standing research collaborator Professor Paul Russell. “Each storm has been different in terms of direction of waves, tidal pattern and wave height – but the relentless onslaught that took place through January and February was unprecedented.”

Drawing upon researchers and PhD students within the Coastal Processes Research Group (CPRG), the unit has become increasingly reactive and mobile following the purchase of a van, trailer and ATV set-up that enables team members to work around the clock, while also sheltering from the worst of the weather.

Paul said: “The reputation of CPRG has been built on doing coastal fieldwork, often in high energy wave conditions, over the last 20 years. It got to the stage where we were out in the field so often that it became impractical to continue hiring vans and ATVs, so we invested in our own setup.”

“The monthly beach surveys in the lee of the wave energy have been a significant impact, but now we have two major Engineering and Physical Sciences Research Council-funded research projects running which look at the impact of storms on gravel beaches, and coastal resilience in front of our nuclear power stations. And this is supplemented by a range of PhD studies, such as a European Social Fund-Combined Universities grant – including a prestigious NERC Urgency grant – the unit will be chasing storms for a little while longer to come.

But other locations, including the beach at Sellafield, are much further away.

“I always think the key challenge is to make the right call,” Gerd said. “There is a lot involved in mobilising the team, not just staff time and money, and you want to make sure it’s worthwhile. On the other hand you don’t want to miss an opportunity, and we agonise over these decisions.”

Once the decision is made to deploy, a two-to-four person team conducts the survey using video cameras, pressure transducers to measure the tide level and the height of incoming waves, and a laser scanner to record wave height impacting the beach. At Porthleven, the team has also been scanning the amount of cliff erosion, and recently borrowed a mini-seismometer from the world-renowned Scripps Institution of Oceanography in California to measure the actual shaking of the cliff at different frequencies when impacted by waves. It’s understood to be the first time a seismometer has been used in this way.

“It’s extremely demanding work,” said Tim Poate. “You’re working through the night in extreme weather – gales, driving rain, freezing temperatures – but you’ve got resources to make and equipment to use, so you can’t let your concentration slip.”

The team has become a star turn with the national media following the severe storms in February, and have conducted interviews for Sky TV, Radio 4’s Today and PM programmes, and The Independent newspaper, as well as frequent coverage in the Western Morning News. It has, says Mark Davidson, provided an opportunity to showcase the research pedigree of the team and the University.

“Public engagement is an important aspect of our work because the global impact of rising sea levels and increased storminess has far-reaching implications for society – and that has never been more apparent than with the flooding and damage we’ve seen in the early months of the year.”

That commitment to communication will see Gerd and Paul provide this year’s Public Lecture at the National Marine Aquarium: “Where has our beach gone? The science behind how wave and storms impact our coast”. And with further research grants in the pipeline – including a prestigious NERC Urgency grant – the unit will be chasing storms for a little while longer to come.

“Seeing the power of nature is awesome, and gaining understanding of how that power works makes it even more exciting,” said Paul. “And whether it’s working with the RNLI on the dangers of rip currents, or helping beach managers improve sea defences, there’s also a clear focus upon application and impact.”

Professor Gerd Masselink
A little boy sits in the open doorway of his house: what do you need to do in order to save energy?

“This deceptively simple scenario, brought to life by Pieter de Wilde, the University’s internationally-renowned Professor of Building Performance Analysis, begs the answer “close the door”. But, Pieter says, what if the temperature outside is warmer than it is inside? What changes if there is a window open on the other side of the house? How do we know the door is not open on purpose to help ventilation?

“All of these questions demonstrate the scale of the challenge facing those who try to understand the factors affecting the performance of the built environment, including human behaviour. Extrapolate that across an estimated 25 million homes in the UK, and an untold number of commercial and civic buildings, and the task facing energy analysts becomes a dizzying one.

“We deal with so many houses in the UK and it’s such a large part of where our energy is used - around 40% goes into the built environment,” says Pieter.

“And when it comes to explaining the dynamics surrounding energy and performance, we as scientists in the area struggle with the fact that it looks so easy but at the same time it is incredibly complex with so many variables. The work we do here in Plymouth is at the forefront of trying to understand that complexity.”

For nearly 20 years that work has taken place within a specialist research team within the Faculty of Arts and Humanities. The Environmental Building Group (EBG) was established in 1995 to focus upon the field of sustainable construction, both in research and teaching.

That research profile has grown steadily since then, and took a major step forward when it recruited Pieter from the Netherlands’ research organisation TNO in 2005.

The securing of an Engineering and Physical Sciences Research Council (EPSRC) grant in 2009 broadened and deepened EBG’s expertise in understanding the correlation between complex scenarios such as changing climate conditions and building performance. More recently, this has expanded to include the intricacies of occupant behaviour.

“We have close working relations with leading players such as Georgia Tech, TU Vienna and UCL; we talk to Stanford and Carnegie Mellon,” added Pieter. “In our field we’re internationally respected.”

Steve Goodhew, Professor of Environmental Building, said: “Research in the EBG focuses on prediction, measurement and workmanship and the links between them. That begins with performance simulation here on campus, using computers and specialist software to replicate how buildings behave.

“Then we monitor performance out in the field, using equipment such as gas and electricity meters, temperature, relative humidity and heat flux sensors, thermal probes and thermal imaging cameras to see for ourselves how buildings perform. And then we close the circle via construction management – where all of this work is brought together on the building site.”

The application of that expertise has been driven by a consistent focus on partnership and engagement. Steve, for example, has overseen thermal assessments of hundreds of buildings through projects such as ‘21st Century Living’, with Homebase, and the Department of Energy and Climate Change - funded Cornwall Together with the Eden Project, which provided thermographic analysis of 620 properties across the county. Pieter led a Knowledge Transfer Partnership with company C3Resources that resulted in novel automated data analysis techniques, boosting business performance – and was later assessed as “outstanding” by the Technology Strategy Board KTP Assessment Panel.

Together they’re undertaking in-depth monitoring of apartments for Sovereign Homes in Torquay.

EBG research has also led to new technologies, such as the development of thermal and moisture probes for measuring materials in situ, with EBG working with Dutch instrument manufacturer Hukseflux.

“Advancing the energy performance of buildings through measurement and prediction is a pretty fair reflection for what we do,” says Steve. “And with many of these projects, we’re feeding back to industrial partners so that they can better understand how energy is actually used and how to improve communicating the benefits of energy efficiency to the general public.”

The behavioural aspect, encouraging the users of buildings to consider how they impact upon thermal performance, has become an important strand of the group’s work, and has led to interdisciplinary opportunities with the School of Psychology. The biggest project so far is the ongoing eViz (Energy Visualisation for Carbon Reduction), a £1.8 million EPSRC-funded project, with Plymouth leading Bath, Birmingham and Newcastle.

Pieter said: “The idea of eViz is to visualise energy in a dynamic way so that people can get a handle on where and how a building is losing heat. Previously, we have found that static thermal images allowed people to get an idea of the heat loss from their homes and this encouraged more sustainable behaviours. In eViz, we’re using a variety of visualisation and simulation techniques to map the dynamics of energy flow around a building, over time, and link it in with particular behaviours and actions.”

Intelligent prediction and rigorous scientific measurement are used by the EBG to tackle pressing habitats, such as helping people to understand that leaving a window open on a hot, sunny day, isn’t cooling your house. With such work the EBG is playing a key role in the University’s sustainability story. International acknowledgement of the quality of the work is evident by the role that the EBG plays in the International Building Performance Simulation Association (IBPSA), the European Group for Intelligent Computing in Engineering (EG-ICE), and more recently the International Energy Agency (IEA) Energy in Buildings and Communities Programme.

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“We have close working relations with leading players such as Georgia Tech, TU Vienna and UCL; we talk to Stanford and Carnegie Mellon,” added Pieter. “In our field we’re internationally respected.”
“I’ve pushed myself to the very limit in one of the harshest climates on Earth – and given talks to a quarter of a million people about the variety of marine life and stunning habitats that our world possesses. And I’ve discovered so much about myself in the process.”

For centuries, Plymouth Hoe has been an iconic launch pad for adventure and discovery. More recently, it’s become a symbolic one for the University’s students as they pass through the graduation marquees on their way to a new phase of life. But for 24-year-old marine biology graduate Henry Evans it’s been both — and a springboard to a truly remarkable 18 months.

From Graduation 2012, Henry’s journey has seen him follow in the footsteps of childhood hero Captain Robert Falcon Scott, skiing to the South Pole to mark the 100th anniversary of the ill-fated Antarctic expedition. Since then, he’s embarked on a whistle-stop speaking tour of schools around the world as ‘global ambassador’ for the University and higher education.

That process of discovery for Henry dates back to 2010 when he first entered the competition to be a part of the International Scott Centenary Expedition (ISCE). His movingly worded tribute to the explorer, whose stories he’d heard as a child from his grandfather, got him through to the final ten, before he overcame a series of gruelling physical and mental tests to earn a ticket on the plane.

Henry had to juggle training sessions on Dartmoor with taking his final exams, but in December 2012, his epic journey began. Flying via Punta Arenas, Chile, and Union Glacier in Antarctica, Henry and guide Geoff Somers set out from 88 degrees south – and 14 days later they reached the Amundsen-Scott base.

Reflecting on the experience, Henry said: “What hits you is just how remote it is, and how it can be so bleak and beautiful at once. It’s also incredibly hostile – we had whiteout conditions, and the wind chill is hard to describe. We both suffered frost nip, and I can well imagine how excruciating frostbite must be. But I was also very aware of the importance of Antarctica to science and to understanding our climate, and I wanted to make a contribution to that research effort.”

This Henry did by taking sub-surface snow samples every three miles along the 120-mile traverse, which he later supplied to the British Antarctic Survey for analysis of isotopic levels.

Returning home to Saffron Walden, Essex in January, Henry found the transition to normality “tough”. But having been sponsored by the University on the ISCE, he suggested to the institution that he share his experiences with children and young people at some of its partner schools.

He set up a business – Magnificent Ocean (www.magoce.com) – and began contacting schools in the region to offer workshops and classroom activities for their pupils. Using PowerPoint and props – namely his expedition gear (and signature penguin costume) – as well as photos, videos and anecdotes, Henry tailors the experience according to the age of his audience.

As word has spread of the popularity of the sessions, so invitations have come in from further afield. And as the project snowballed, so Henry began to set his sights overseas — and thus the role of global ambassador was born.

“I’d search on the internet for the best schools in a country and contact them direct. I must have done 60 schools in the past ten months now. I’ve been to China, Thailand, Singapore, Vietnam, the United States, and all over Europe – and everywhere I’ve gone, the children have been so enthusiastic.”

Henry has had to be sensitive to the political climate – treading carefully with carbon emissions in China for example – and has learned to handle the expectations and energies of his audience.

“I had 600 pupils at a school in London all wanting to try on the penguin costume, and 200 pupils in Vietnam queuing for my autograph,” he said. “I even signed a football. And what’s amazing is to hear these children say they want to be a marine biologist or to go to university, because they’ve been inspired by my stories.”

With further trips to Europe, China, Hong Kong and the United States on the itinerary, and a book from University to the South Pole (available from Amazon) to promote, there’s no sign of Henry slowing down just yet.

“The University has been hugely supportive of me every step of the way, and I’d really like to keep that association going. It’s great that I’ve been able to be an ambassador for Plymouth.”
“The visions we have developed rest on four key pillars – recruit, teach, research and enterprise – which we see as interlinked and mutually reinforcing.”

Russia has dominated the global agenda in 2014: from the spectacle of the Sochi Winter Olympics and Paralympics to escalating political turmoil in the Crimea and Ukraine and renewed East-West tension, it’s been headline news on a daily basis.

For Professor Graeme Herd, the Founding Director of the School of Government and an internationally renowned expert on Russian foreign policy, it’s provided fascinating viewing, not to mention opportunities aplenty for commentary and analysis through the UK media.

Graeme went to meet Graeme to ask what his ambitions are for the new school – and what might be Russia’s ambitions for eastern Ukraine.

“Those that run Russia tend to own Russia, and I think that they feel a lack of concern for two reasons,” said Graeme. “First, their propaganda is too effective and if the West, in the shape of the EU and NATO member states, has been training mercenaries and snipers and supporting far right fascists in Ukraine, then Russia will view the criticism as an indicator of its good practice. Second, reputational loss is more than compensated for by economic gain, and Russia’s ‘siloviki’ (people of power), in connection with pet oligarchs, are now poised to displace Ukrainian oligarchs in Crimea and eastern Ukraine – to the victor the spoils.”

Graeme’s insight into the region has been called upon many times by organisers of prestigious international conferences, and sought out by academic institutions across Europe. And as he’s spent the majority of his academic career teaching and researching the major global issues of the day, he now hopes to enhance Plymouth’s influence in the fields of regional, national and international policy.

The opportunity to develop that proactivity, and the University’s high-profile partnerships with organisations such as the Britannia Royal Naval College, is what brought Graeme to Plymouth. In the six months since his arrival, he’s worked with colleagues to formulate an all-encompassing vision for how he wants the school to develop and flourish, providing a rounded and mutually fruitful experience for students and staff alike.

“Before coming to Plymouth, I was very impressed with the range and quality of school staff, particularly their research interests and how the school’s four programmes are rated and ranked,” said Graeme.

“My impression was that these programmes offered huge potential, and becoming Director represented a rewarding if challenging opportunity to take them to a new level. The visions we have developed rest on four key pillars – recruit, teach, research and enterprise – which we see as interlinked and mutually reinforcing. We aim to build on current successes to create a brand based on the criteria of relevance, quality and distinctiveness.”

Encompassing International Relations, Politics, Public Policy and Sociology, the new school’s academic programme will be targeted at addressing real world challenges focused around themes of governance, regulation and sustainability. It will also look to develop innovative collaborations and joint research funding applications to key national and European funders with partners across the Faculty of Business.

“The expertise within the School of Government on national and international politics, policy-making processes and global concerns that impact on business is available to colleagues across the faculty,” said Graeme. “And, in turn, the schools can tap into the insights of our business colleagues, helping us ensure relevance as well as quality in our teaching and research. In this way, we will create an enterprising, rewarding and sustainable working environment for students, staff and partners.”

Graeme’s journey to Plymouth has been an eventful one. He studied at the Institute of Russian History in Moscow, while his career since graduating has been an eventful one. He studied at the Institute of Russian History in Moscow, where he was Deputy Director of the Scottish Centre for International Security – to the George C. Marshall European Center for Security Studies in Garmisch-Partenkirchen, Germany. His role prior to his arrival in Plymouth was as an international faculty member at the Geneva Centre for Security Policy (GCSP), which trains government officials, diplomats, military officers, international civil servants and NGO staff in pertinent fields of international peace and security.

Graeme said: “In my last class, I had a Lieutenant Colonel from the Democratic People’s Republic of Korea, a former SPLA Commander from South Sudan, a US Air Force Colonel who piloted B2 bombers and a Chinese Defence Intelligence Analyst. It certainly made for stimulating discussions, especially on island disputes in Asia-Pacific.”

Graeme is hoping that a similar level of impassioned debate – between students and lecturers, and professional and academic staff – can drive the School of Government forward in the coming years to achieve influence and impact at all levels.

“Starting with individual students, we can empower them with knowledge, networks and skills,” said Graeme. “We want them to leave and turn their knowledge and networks into cooperative and sustainable outcomes for themselves, their families, communities, societies, states and regions. But as a school, we aspire to be recognised nationally and internationally for our academic excellence in education and research across the disciplines. In this way, social, political and international problems facing the contemporary world will be addressed to shape an innovative knowledge-based society.”
“Ultimately it will be the collective actions of many that will make the difference. All of us are part of the story: the problem and its solutions.”

Professor Richard Thompson, of the School of Marine Science and Engineering, is a man in demand. Courted by governments around the world to provide evidence on the impact of plastics upon the marine environment, he’s a scientist equally as comfortable giving lectures to his students as he is addressing a House of Commons Select Committee. CONNECT booked in for chat.

How has that work shaped your time at the University?

I joined Plymouth in 2001, and I immediately set about quantifying small fragments of plastic. We used archived plankton samples held at the Sir Alister Hardy Foundation for Ocean Science here in Plymouth, and found evidence of them dating back to the 1960s, with a clear rate of increase across subsequent decades. Along with Professor Steve Rowland and other colleagues, we wrote a paper that was published in Science in 2004, where we first coined the term ‘microplastics’. Substantial funding from the Leverhulme Trust followed, and this helped demonstrate that a range of organisms could ingest microplastics and that in some contexts these particles could transfer contaminants from seawater to marine life. One of our lines of enquiry now is establishing the extent to which microplastics might cause harm in the marine environment. This work is funded by the Department for Environment, Food and Rural Affairs (Defra) and is of direct relevance to the EU Marine Strategy Framework Directive.

So how big a threat is plastic to the marine environment?

We live in a disposable society, where 30 per cent of the plastic we produce is used for packaging that we throw away within a year of manufacture. And you can understand why we produce so much plastic – it’s incredibly useful, it lasts a long time, and is lightweight – but it’s also creating a global environmental problem, and this is especially true in the oceans where 80 per cent of marine litter is plastic. We can see the damage that is caused by large pieces, which can be swallowed by turtles or which can snare and strangle seabirds. But plastic undergoes continued fragmentation in the environment, getting smaller and smaller, and it’s the impact of these tiny pieces, which in 2004 we described as ‘microplastics’, that is the focus of our research today.

What sort of impact has your work had in the public arena?

Well, it’s certainly created global interest in the topic, especially the demand for solutions. I’m constantly asked, “What should we do to reduce the problem of plastic waste in our oceans?” and this has become the major strand of my work. Our papers were cited by the National Oceanic and Atmospheric Administration within the US Department of Commerce when they organised the first international meeting on microplastics at the University of Washington in 2008, and I was asked to give the opening presentation. I presented my findings to the European Parliament and the EU Committee of the Regions in 2010 and was asked to be a scientific expert in a subgroup which defined methodological standards for member states to implement via the Marine Strategy Framework Directive. Our team has completed research for Defra, and I’ve presented to the House of Commons Science and Technology Select Committee, and have worked with the United Nations Environment Programme to identify ‘Global and Regional Solutions to the Marine Debris Problem’, which was great recognition of the impact of our work.

What’s the prognosis for the future?

Well in my opinion there is considerable hope we can resolve this problem. We all use plastics every day, so whether it’s a plastic bag we choose not to take home from the supermarket or a bottle we recycle, ultimately it will be the collective actions of many that will make the difference. All of us are part of the story – the problem and its solutions, and it’s for those reasons that I’m optimistic. That will be part of the message that I’ll be presenting at the European Commission Conference HOPE (Healthy Oceans – Productive Ecosystems) this year.

And finally… can you tell us something about yourself that your colleagues don’t know?

No, I am fairly open by nature!
When the New Year’s Honour’s List announced that City Council Officer Tracy Green was to receive an MBE in recognition of her leadership of the Plymouth Family Intervention Project (PFIP), there were few people more delighted for her than Dr Zoë James.

The University’s Associate Professor in Criminal Justice Studies knew that the honour was also prima facie evidence that the project in which she too had played such an integral role was being held aloft as a national exemplar.

Over the past six years Zoë has been providing expert consultancy and evaluation for the PFIP, which works with families in the city to address some of the root causes of antisocial behaviour. And more than that, her five-year report into the progress made by some of the families has provided key academic insight into the hotly-debated programme introduced by New Labour under its ‘Tough on crime, tough on the causes of crime’ banner.

Zoë said: “When the Family Intervention Projects were introduced there was tremendous debate over the ethics of intervening in this way. The argument for them was that behind persistent antisocial behaviour are often deep and complex family problems.”

“What you find, for example, is that the 12 year old who is abusing the neighbours has a mother who has severe diabetes and can’t take him to school. And she doesn’t know how to access the health services she needs and so the problem becomes long-term behaviour.”

The Plymouth project was one of the first in the country to be set up, and formally began to operate in 2007. It does so through an intensive outreach programme which considers the needs of the entire family rather than those of the individuals.

Key workers attend family homes to address issues, such as health, truanting and long-term unemployment. Families sign up on a voluntary basis, but are held to account on their ‘performance’ across 56 measures, broken down into 13 critical issues and five areas: crime and antisocial behaviour; education; family functioning; health; and employment.

Zoë, working with Ruth Browning, a Plymouth University alumna employed by the PFIP, developed an assessment tool in 2008, and she’s continued to provide annual evaluations for the PFIP on a consultancy basis.

She said: “As a criminologist I’ve been able to add value to the process, picking out trends particularly in what we think of as risky behaviour. For example, one year we reported an increase in risky behaviour, notably smoking, by 10-14 year olds. So the following year the key workers addressed it. We also found that in every family there had been some history of domestic abuse, so the PFIP was able to obtain funding for a specialist worker to be recruited to address that issue.”

Most recently, Zoë completed a five-year longitudinal analysis of the journey travelled by families from PFIP intervention in 2007 until 2012.

Her research showed that parents and young children experienced the most positive outcomes over time, with greatly reduced engagement in crime and antisocial behaviour, reduced threat to tenancy, and reduced truancy. It also highlighted societal issues, such as the risk of domestic violence being repeated across the generations, from victim to perpetrator, and the lack of understanding around the benefits of contraception.

Zoë said: “When people live in poverty for a long period of time, their ability to sustain change is low. If you’ve spent the last 25 years not knowing how to behave, then trying to address those issues can be hugely challenging. So the fact that the families have demonstrated positive action is cause for great optimism, and a challenge to the notion that ‘learned behaviour’ is unchangeable.”

The report has been sent to the government, and is part of a sustained process of engagement with policy makers, as demonstrated by the visit of Eric Pickles, Secretary of State for Communities and Local Government, and Louise Casey, Director General of ‘Troubled Families’, to the local authority in 2012, specifically meeting – with the PFIP team – families who had been through the intervention.

“What we’re doing here in Plymouth is helping to shape national policy in working with troubled families,” added Zoë. “The MBE for Tracy was recognition for the project and a vindication of evidence-led intervention. And it is another example of how the University can use its expertise to engage with the local community and address some of society’s key issues.”
The Development and Alumni Relations Office (DARO) fundraises and ‘friend raises’ for key University projects, from student bursaries to capital developments. Christian Burden joined last July as Plymouth’s first Director of Development and Alumni Relations. CONNECT sat down for a chat with him.

You arrived in Plymouth from Australia via Birmingham. Tell us about your background and how you came to work in Development?

My development and fundraising career started at The Scots College in Sydney in 1998, where I spent five years before moving onto Trinity Grammar School for a further four years. These two roles proved to be a great way to find my feet as a fundraising professional in the education sector, and when the opportunity came to move into higher education I jumped at it. In 2007 I started as the Campaign Manager for the School of Medicine at the University of Western Sydney. This was a brand new medical school and I was the first appointed fundraiser, so I knew it would be a big challenge. Fortunately, I had a great team around me, and while the move into HE was daunting, I was able to quickly establish myself and grow into the role.

In 2010, I wanted a new challenge, and I was lucky enough to be offered the role of Head of Major Giving at the University of Birmingham. Essentially, this role was to lead a fundraising team dedicated to securing large-scale philanthropic gifts towards the University’s ‘Circles of Influence Campaign’, which had a target of £60 million. It turned out to be the biggest challenge of my career at that point, and I found myself on a very steep learning curve in a new country, and I was the first appointed fundraiser, so I knew it would be a big challenge. Fortunately, I had a great team around me, and while the move into HE was daunting, I was able to quickly establish myself and grow into the role.

What attracted you to Plymouth?

The role presented a great opportunity to progress professionally, and the ambitions, direction, values and personality of the University seemed to be a perfect match for me. The city and surrounding area were also very appealing. It’s a great place to live and work. Plymouth Hoe is up there with the most beautiful places I have visited anywhere in the world.

Why does the University need to raise philanthropic funds?

The University has created a strong financial base from which we can continue to thrive. However, with dramatic changes in government funding for universities, the need to diversify and strengthen alternative income sources has increased across the sector. The role of philanthropy at Plymouth is all about creating and supporting the conditions and opportunities to help a good, reputable university develop into a great, globally recognised university. With our distinctive branding, mission to transform lives through teaching and research, and ranking as top 30 university globally, Plymouth has a wonderful foundation from which to confidently build philanthropic partnerships to support a range of game-changing projects, talented students and world-leading researchers.

What are the fundraising priorities for Plymouth?

They are very much linked to the major projects and priorities that are helping to deliver our mission to transform lives and advance Plymouth from good to great. Projects will range from supporting students through scholarships and bursaries, hardship funds and internships, to major research and capital development projects. For example, we are working closely with Dominic List (who graduated from Design Technology and Business in 1997), the dynamic entrepreneur whose philanthropic support has established the ‘Dominic List Innovation Fund’, to encourage and grow student entrepreneurship at Plymouth.

We’re also working with PUPSMD to support the world-class brain tumour research team (see pages 4-5). The translational nature of their work is very exciting, and it would be amazing to help find a cure here at Plymouth that could change the lives of so many people in the future.

These are tough economic times. What makes the University attractive to donors?

The University presents a genuine opportunity for all our donors to make a tangible difference to the student experience and to society in a range of areas, simply through the nature of the work we undertake here. Our mission to transform lives ensures that this is the case, and we very much see our donors as partners in realising this. Donors have a range of opportunities to work with the University to express their passion or interest in a particular area through their giving, and in turn, witness for themselves the transformative effect their philanthropy is making to the individuals, families and communities we engage with. In addition, every pound gifted to the University is directed towards supporting the intended outcome to which it was made. Our biggest challenge is time. Plymouth is very much in the early stages of building a philanthropic programme and supporter base. Our work requires patience and persistence, and an understanding that our donors will be motivated by a range of personal experiences and self-interests, all of which we need to understand and work with to achieve mutual outcomes between our donors and the University.

Your team works with staff, students and alumni. Why is their engagement important?

Staff, students and alumni are at the core of the University’s community. For example, we have some 112,000 graduates now, and we’re in some form of contact with the vast majority. Naturally, alumni may wish to donate to the University and should feel proud to do so. And our students are future alumni, so it’s very important that they leave with fond and enduring memories. Our staff are crucial in that process, as they not only deliver frontline services, but they lead research programmes that help strengthen the profile and reputation of the University, and many also maintain strong links with our alumni long after they graduate.

Alumni can also engage with the University as volunteers across a range of programmes that support Plymouth’s student recruitment plans, student employability, academic curriculum and professional networking with students and other graduates.

Finally, can you tell us something about yourself that colleagues might not know?

I used to play professional rugby, so strategy and tactics have always been important to me!

“The University presents a genuine opportunity for all our donors to make a tangible difference to the student experience and to society in a range of areas, simply through the nature of the work we undertake here.”

“The University has created a strong financial base from which we can continue to thrive. However, with dramatic changes in government funding for universities, the need to diversify and strengthen alternative income sources has increased across the sector.”
Academics from the Faculty of Business, allied to the new Centre for Sustainable Philanthropy, have this term presented at a prestigious global research conference in America. Professor of Philanthropic Psychology Jen Shang, and Dr Victoria Hurth, Lecturer in Marketing and Sustainability, took to the stage at the Allied Social Science Association conference in Philadelphia to discuss their research into what motivates people to donate.

“The conference provided an international platform to share our insights into philanthropic behaviour around families and friends, which we’ve gathered over time and recently in partnership with DTV, the largest charity advertising agency in the UK,” said Jen. “The feedback we had was excellent, and is already leading interest in joint international partnerships, including an invitation from the University of Chicago.”

Led by one of the world’s foremost fundraising academics, Professor Adrian Sargeant, the Centre for Sustainable Philanthropy (CSP) launched in London in January and is the first centre of its kind to focus on the new field of philanthropic psychology.

Donating Time to Address Global Conference on Philanthropy

**Tate Honour for Roy Ascott**

Roy Ascott, Professor of Technoetic Arts in Plymouth University’s School of Art and Media, has had one of his works acquired to become part of the nation’s artistic archives.

Roy, a pioneering researcher who’s been at the forefront of the digital art movement for more than five decades, was asked if his piece ‘Video-Roget’ could become part of the Tate Gallery Permanent Collection, where it will sit alongside works by the most celebrated British artists of the past 500 years.

Completed in 1962, the piece was informed by cybernetics and embodies a simple thesaurus of forms, whose semantic connections can be created by the interaction of the viewer.

Roy, who is also President of the Planetary Collegium, which is centred in Plymouth but unites researchers in nodes across the world in the practice and theory of new media art, said: “You’re always pleased when a good home is found for your work, and ‘Video Roget’ couldn’t be in better company than in the Tate’s permanent collection. It was shown in my first London solo show at the Molton Gallery, ‘Diagram Boxes and Analogue Structures’, and it’s great to know that new audiences nationally and internationally will get the chance to see it in the future.”

The Tate collection holds the national collection of British art from 1500 to the present day and embraces all media, seeking to represent significant developments in art, with artworks of outstanding quality and importance.

**Cumberland Centre Opened by Government Health Official**

The Cumberland GP Practice in Devonport provides both a cutting-edge training centre for medical and health professional students and a treatment centre for patients in the community.

Dr Poulter toured the facility on the first anniversary since it opened and met the staff, who already provide valuable GP-led care to 800 local patients. He then visited the neighbouring Devonport Dental Education Facility (DEF), one of four DEFs run by the Peninsula Dental Social Enterprise across Devon and Cornwall.

The DEF programme welcomed its first NHS patient in 2008, and since then more than 14,000 people in Devon and Cornwall have had access to NHS dental care where they may not have done previously.

**School of Biological Sciences Takes to the Stage with the Linnean Society of London**

The School of Biological Sciences, in conjunction with the Linnean Society of London, presented its first flagship public lecture in March. The Plymouth Linnean Lecture serves to bring renowned scientists and communicators to the city to help promote the field of natural history and make it more accessible to people in the South West.

Pitched for scientists and non-scientists alike, this year’s lecture was presented by Professor Camille Parmesan – a Nobel prize-winning climate change scientist and the NMA Chair of Public Understanding here in the Marine Institute. Her lecture – ‘Biodiversity and climate change: connecting the past to the future’ – explored how species have shifted their habitats as a consequence of global warming.

**New Year’s Honours**

Professor Iain Stewart had a royal appointment this term when he attended Buckingham Palace to receive his MBE, pictured with the HRH The Prince of Wales, was recognised for his services to Geoscience Education.

Iain said: “I am very honoured to have been awarded the MBE. I spend a lot of my time talking about the planet to anyone who will listen, especially pupils studying geography or geology in schools. The message is always about how amazing the Earth is, but also how the biggest challenges we face relate to understanding how it works and what we’re doing to it.”

In this year’s Honours list, Dr Anne Roberts, Associate Professor in Occupational Therapy in the School of Health Professions, was awarded an OBE. In a career that has spanned four decades, Anne has developed and led the world’s first distance occupational therapy masters programme, and championed the importance of research into occupation to change people’s lives.

“Receiving this award has made me reflect on the impact of Melong learning, my part in it, and above all the wonderful creative occupational therapy profession which offers such opportunities to use occupation to change people’s lives.”

**Sustainable Philanthropy Conference**

January and is the first centre of its kind to focus on the new field of philanthropic psychology.

The conference provided an international platform to share our insights into philanthropic behaviour around families and friends, which we’ve gathered over time and recently in partnership with DTV, the largest charity advertising agency in the UK,” said Jen. “The feedback we had was excellent, and is already leading interest in joint international partnerships, including an invitation from the University of Chicago.”

Led by one of the world’s foremost fundraising academics, Professor Adrian Sargeant, the Centre for Sustainable Philanthropy (CSP) launched in London in January and is the first centre of its kind to focus on the new field of philanthropic psychology.
Fructus, Corpus and Phyllotaxus – three marble sculptures from Devon artist Peter Randall-Page – are here captured in natural light by University photographer Alan Stewart. Carved from Tuscan marble, the pieces are part of Peter’s first major exhibition for 25 years, entitled New Sculpture and Works on Paper, and spanning two venues: the Peninsula Arts Gallery and Plymouth City Museum and Art Gallery.