

veterinary alumni news

SEPTEMBER 2014

Training the next generation of veterinary scientists

Having topped The Guardian University Guide 2015 league table for Veterinary Science in the UK, veterinary education at Liverpool is riding high. Programme Director Dr Alex German explains how a five-year plan and the launch of a new curriculum is overhauling undergraduate veterinary teaching.

Here at Liverpool, we are all really excited by the new curriculum and we are confident it will achieve our aim of providing world-leading clinical training, underpinned with the latest scientific knowledge. It has been developed over a number of years and redesigned from the ground up, following consultation with staff, students, alumni and key stakeholders.

Our major aims were to avoid overload, reduce the number of lectures and replace them with more dynamic forms of training such as 'scenario' sessions where students work in groups to tackle clinical problems, and to ensure the course was much better integrated.

While the old curriculum was delivered in a modular format, whereby individual subjects were taught at defined times in selfcontained units, the new curriculum sees the integration of subjects throughout the programme so students can seamlessly connect what they have learnt to what they are practising. Pre-clinical subjects are taught early on and then revisited during the latter stages of the course to ensure clinical knowledge is based on sound physiological and pathophysiological principles.

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Editorial

I am very pleased that we have another issue of veterinary alumni news and I hope members will enjoy it.

In this issue there are a variety of interesting articles covering the new exciting veterinary curriculum. Peter Harlech Jones' explanations on the pros and cons of the increasing numbers of veterinarians may help members to understand the difficulties and advantages of this. There is a fascinating article on taking lowland gorillas to Gabon. The role of the School of Veterinary Science in continuing professional development and a collaborative project with the engineers on 3D printing of implants also look to the future. We have one graduate's story of how she found her niche after deciding she didn't want to go into large animal practice because of the emphasis on economics and not welfare. These are followed by news from the school and how staff and students are responsible for many innovative projects. We also have news of alumni members. Finally, Roger Ewbank tells us of the origins of the School of Veterinary Science buildings.

All the authors have put time and trouble into giving us these articles and

we would like to thank them. I would also like to thank Nicola Beesley for coordinating this issue so efficiently. Any ideas for future topics and any volunteers for writing articles would be most appreciated. If you would like to get involved, please contact us at: **ulvaa@liverpool.ac.uk**.

Finally, we want to reach as many members as possible and we would like to invite you to take part in a survey about the Association's activities. Visit: www.liverpool.ac.uk/ulvaa.

Mary-Elizabeth Raw (BVSc 1972) Editor

Training the next generation of veterinary scientists continued...

In addition, the course has been designed so that it builds year on year. First-year students will learn the anatomy of each body system at the same time as the second years will be learning the pathology. This will enable second years to make use of the same material, and review the 'normal' while also learning about the 'abnormal'. Once the curriculum is fully rolled out, there will be opportunities for third-year students to teach and mentor students in earlier years, as the growing importance of peer-topeer learning is recognised.

Fundamental research skills are taught in the early years and then reinforced when students undertake a full honours-degree-equivalent research project in their third year. Evidence-based veterinary medicine principles underpin all clinical subjects, enabling undergraduates to review clinical evidence critically and appraise new data as it emerges.

However, the most significant changes focus on clinical skills teaching, and this now takes place throughout the five-year programme. The School has appointed a number of new lecturers specifically to teach clinical skills, and opened new purpose-built teaching laboratories. Skills that do not require preexisting clinical knowledge, such as basic urinalysis, running packed cell volumes (PCVs), examining blood smears, bandaging, and positioning animals for radiography, will be taught in the early years so employers can expect students to have more skills when they start extramural studies (EMS).

Teaching includes the use of existing models such as a cattle obstetric simulator ('Calving Kylie') and a lifesize model of a horse with working jugular veins and



'Calving Kylie' in action

foam pads for practising intramuscular injections, while the 'Lambinator' for lambing practice and a canine head model to practise ophthalmic and auroscopic examinations, have been developed by the lecturers themselves.

A 'cow laboratory' has been developed to provide an area for self-directed teaching, where students can practise skills such as haltering and casting a cow, learn how to cast a calf's leg, and perform a rectal examination with the use of 'Breed n Betsy', the in-house reproductive tract simulator. And most recently, we have secured a £15,000 grant from the University's Benefactors' Fund to help pay for equipment to stream surgical procedures into lecture theatres as they happen, greatly enhancing the student experience.

We are extremely proud to call the degree 'veterinary science' since it emphasises the two key aspects of our teaching: veterinary – giving students the key skills for their jobs as veterinary surgeons, and science – using research-led teaching to train our students to become scientists as well as clinicians.

For more information, visit: www.liverpool.ac.uk/veterinaryscience.

Viewpoint



Peter Harlech Jones (BVSc 1971), immediate Past President of the British Veterinary Association, discusses the rising numbers of UK veterinary graduates.

"Since the University of Surrey announced its intention to open a new veterinary school, the profession has been considering the potential issues arising from the establishment of new schools and the increase in graduates that will result, as well as from the increased intake of undergraduates by the existing seven schools. There are strongly held opinions within the profession that any increase could lead to a host of educational and workforce problems, but it is also recognised that it would be unconstructive to try to stop progress.

In 2011, 86 students became the first cohort to graduate from the University of Nottingham veterinary science degree. The new school in Surrey will have an intake of 45 students from October, and other universities both in Wales and Northern Ireland, are considering plans to offer veterinary degrees.

In October 2013, the Royal College of Veterinary Surgeons (RCVS) stated it was 'committed to setting, upholding and advancing the standards that any new UK veterinary degrees would need to meet', but indicated it had 'no mandate to control student or graduate numbers' and that 'the free market and mobility of workers in the EU makes any control at the level of sovereign state effectively meaningless with respect to workforce management'.

The British Veterinary Association (BVA) has been consulting members to develop its position and held a forum in London for interested parties to consider the evidence and challenges we face as a profession."

The major issues identified in the BVA's deliberations are:

• Standards in veterinary education

A dilution in the quality of veterinary teaching is one of the most serious concerns. Will there be sufficient academic staff to support the growing numbers of students?

Provision of extramural studies (EMS)

EMS is an essential component of undergraduate training, but it could become a pinch point as student numbers increase, practices consolidate and more universities enter into arrangements with local practices.

• Oversupply of qualified surgeons

A survey by the Institute for Employment Studies on behalf of the RCVS in 2013 found that increasing graduate numbers had had little impact on veterinary job prospects. In 2011, veterinary surgeons were removed from the government's skills shortage list because supply had increased. There is still real concern that the continuing increase in numbers and free movement of workers within the EU may lead to oversupply.

Impact on salaries

BVA members are concerned that an oversupply of surgeons could put a downward pressure on salaries.

• Opportunities for innovation

With greater competition to attract the brightest school leavers and provide a course with excellent career opportunities, there is potential for innovation in the delivery of programmes.

• Increasing influence of vets in wider science community

An increasing number of vets going into careers outside of traditional practice could have a positive impact on increasing influence in the wider science community, and remove the perceived stigma of not going into practice.

"The BVA's position is that the number of students and new veterinary schools will be determined by the market. The BVA will continue to work with providers to support students and the maintenance of high standards, but institutions and funding bodies must consider the potential impact of increasing numbers in their future planning.

Quality EMS is highly valued by students and employers and must remain part of the curriculum. Schools must be confident that provision, including a variety of placements, is available for increasing numbers. RCVS must uphold its commitment to ensure standards are maintained and should make information available to employers about the accreditation of EU schools.

As numbers increase, clinical practice opportunities may become more limited. Careers advice for undergraduates must be improved to support nonclinical career paths, and guidance for school students must give realistic expectations of career opportunities.

If more universities open veterinary schools, these issues will come into sharper focus and the demands on our profession to address them will prove challenging, but hopefully surmountable."

Homeward bound



Djala and his family settle into their new home

How do you return an entire family of gorillas from their UK home to the wilds of the African rainforest? Ian Ashpole (BSc Veterinary Conservation Medicine 2006, BVSc 2008) gives us a first-hand account.

Since graduating in 2008, I have had some amazing experiences around the world and my trip to Africa last year was the highlight so far. In October 2012, I started working as a veterinary surgeon at The Aspinall Foundation, which is responsible for two large wild animal parks: Howletts and Port Lympne in Kent. These parks, founded by the late John Aspinall – an eccentric gambler and casino owner – are home to the largest herd of African elephants in Europe, the largest number of black rhinos outside of Africa, a wide collection of carnivores and ungulates and, most famously of all, a large number of Western lowland gorillas.

The Foundation aims to preserve animals in their natural habitats and has successfully transported various animals, including black rhinos, brown hyenas, Javan langur monkeys and Przewalski horses, to managed reserves worldwide. In 2013, I was lucky enough to be involved with its most ambitious plan to date: transporting a family group of gorillas from captivity in Kent to the equatorial forests of Central Africa. Each of the gorillas looked fantastic, although somewhat tired, as they took their first tentative steps onto the island.





Surgically implanting a VHF radio-transmitter into Mbwambe, a juvenile female gorilla

The family travelling to Africa was led by the magnificent silverback, Djala, who was born in the forests of Congo-Brazzaville and rescued as a young orphan when his mother was killed for the bushmeat trade. Djala eventually moved to the UK under John Aspinall's care and sired multiple offspring.

After many months of planning, the big day arrived. Nine gorillas (an adult female would make the journey three months later) were anaesthetised, loaded into transport crates and allowed to wake up before the journey of a lifetime began. Myself and another of the group's keepers Phil Ridges followed closely behind as they were driven from Kent through the Channel Tunnel to Brussels Airport and onto a cargo plane headed for Lagos.

Phil and I checked the gorillas frequently and offered them drinks and food through small access points in the front of the crates. In Lagos, the gorillas were unloaded and immediately reloaded onto a second cargo plane destined for Gabon.

From Franceville Airport, Gabon, the gorillas were loaded onto a military helicopter and flown high across the Bateke Plateau National Park, before landing deep within the equatorial forest. The last leg of the journey was on flat-bottomed metal boats, crossing the Mpassa River and arriving at their new home, a seven-and-a-half acre forested island.

Each of the gorillas looked fantastic, although somewhat tired, as they took their first tentative steps onto the island, 30 hours after leaving the UK. I stayed in Gabon for a further four months, monitoring the gorillas and helping when veterinary intervention was required.

The gorillas are being continually monitored to ensure they adapt to the wild: previously released apes have drowned; venomous snakes and wild elephants in the area also pose a threat; and it was unknown whether the gorillas would identify and eat the local vegetation. Exactly a year after their release, it was decided the gorillas could be further integrated and two wooden bridges were constructed linking 'Gorilla Island' with the surrounding mainland. Djala and his family are still being monitored, but they can now spend the remainder of their lives in the wild. I would like to thank Amos Courage, Jane Hopper and everyone else who was involved with this project at The Aspinall Foundation.

For more information and to read lan's blog, visit: **www.aspinallfoundation.org.**

The changing face of continuing professional development at Liverpool

With an international reputation for excellence developed over three decades, the University's veterinary continuing professional development unit, CPDvets, has become the country's largest provider of the Royal College of Veterinary Surgeons' (RCVS) certificate programme, the CertAVP.

Following the RCVS modularising and devolving the programme, the unit has dramatically expanded, introducing a new range of modules delivered in a flexible format, combining distance education and wholly online technology.

The unit now offers equine, small animal, anaesthesia, imaging, dermatology,

production animal practice and, most recently, camelid modules, all supported by practitioners and specialists at the Leahurst hospitals and farms, in addition to veterinary business management modules and a specific PgCert in the subject.

Providing opportunities for structure, group learning, discussion and interaction, the programme supports delegates from the beginning through to their synoptic examination, with more than 1,000 veterinary surgeons having completed modules and more than 100 synoptic completions.

All CertAVP modules are now accredited at master's level and successful completion of the professional CertAVP also means successful completion of a PgCert, with delegates offered the option of continuation in a postgraduate taught programme towards a higher degree – there are eight vets on the first MSc cohort this year.

The practical day courses for standalone CPD are now also available for a greater array of subject areas, including small animal, equine and bovine courses and more specialist areas like dentistry, cardiology, neurology and ophthalmology.

Alumni are entitled to a discount on all practical day courses and are encouraged to check the website for a full list of upcoming sessions:

www.liverpool.ac.uk/cpdvets.



Members of the CPDvets team. Front row (from left to right): Catherine McGowan, Nicky Chambers and Gill Beckett; second row: Dee Connolly, Charlie Whelan, Lucy Atkins and Becky Tee; back row: Ros Carslake, Fred Rylands, Nicky Steel and Tracy Crook.

Liverpool Vets at Work: Vicky Bond

Vicky Bond (BVSc 2009) describes her role in promoting animal welfare with Europe's retailers.

When I graduated, I knew I didn't want to go into conventional veterinary work, and having intercalated in a master's in Environment, Development and Policy, I was able to look beyond general practice.

I knew Compassion in World Farming was an organisation I wanted to work for. I have always admired Compassion's work and while working on farms and seeing practice, I was often frustrated that welfare simply meant health. This was my main reason for not going into large animal practice.

I started out in the Research Department of Compassion in World Farming, and early last year I became EU Food Business Manager. It is an incredibly varied job and my main objective is to promote farm animal welfare with retailers in the UK and Northern Europe, but I also work with manufacturers and food service.

My engagement with food businesses is to provide the knowledge base, rationale and practical advice on improving welfare within the supply chain. In doing so, we aim to raise the baseline level of farm animal welfare. Each retailer is different and my approach and engagement varies depending on how developed their supply chain is.

Later this year, I am due to give a two-day workshop to a retailer's agricultural team on farm animal welfare and slaughter to educate both buyers and technical staff on welfare issues, how to identify them, and the practices that can improve welfare standards. I also work on projects overseeing trials on farms, developing farm animal welfare policies and welfare outcome measures.

We give awards to businesses that reach a certain criteria, including the Good Egg Award and the Good Pig Award. I have presented at a Parliamentary Policy Exchange on the issue of slaughter, and later this year I will present on pig welfare at a large industry event in Denmark. I visit farms and slaughterhouses around the world to learn more and gain further insights into different systems.

The job is challenging and the drive for change in industry can be slow, but when improvements to welfare are made, it helps millions of animals now and in the future.

To find out more about Compassion in World Farming, visit: **www.compassioninfoodbusiness.com.**



When improvements to welfare are made, it helps millions of animals now and in the future.



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Printing - the future of surgical implants

This technology has huge potential as what can be printed is infinitely variable.

Fusion Implants, a company created by the School of Veterinary Science and the School of Engineering, is pioneering the use of 3D printing to produce surgical implants for dogs. Senior Lecturer Rob Pettitt (BVSc 2002)

gives an insight into the company's work.

You have an unusual career path – how did you become a vet?

Veterinary science was a career I wanted to pursue at school, inspired in some ways by the James Herriot programmes that were popular at the time. I was somewhat distracted academically by the pull of the sea, where I spent most of my weekends and holidays. After a couple of colleagues on the Eastbourne Lifeboat service joined the Royal Navy and raved about it, I decided to follow a similar route. When I left the Navy I had a number of options and decided to try to become a vet. The rest is history.

How did you get involved with the 3D printing project and what is the idea behind it?

The School of Veterinary Science has links with the School of Engineering following collaborative research projects. When we started performing a novel surgical technique for cranial cruciate disease in dogs, we discussed the possibility of printing our own wedges. The School of Engineering has a wealth of experience in this field after working closely with human orthopaedic implant companies, so it seemed a logical progression.

What animals might be suitable for a 3D printed implant?

This specific implant is designed for dogs with a rupture of their cranial cruciate ligament that requires surgery. However, because of the flexibility of the 3D printing, the aim is to produce custom-made implants for a range of orthopaedic diseases which will potentially open up the process for any dog or cat.



What are the implants printed out of?

The process involves the layer-wise deposition of titanium powder on a build plate contained in a chamber which is flooded with argon to protect the titanium from oxidation. A laser is scanned across the powder bed and is activated at a specific point (determined by the computeraided design of the part) where it melts the powder. This process is repeated until the part is completely formed.

What advantages does 3D printing an implant offer?

The process allows greater freedom of design and manufacture in implant technology. It is possible to integrally combine porous and solid regions into the implant where that specific feature is required, thereby allowing stiffness and biological effects to be created in the right places. For example, the porous structure can be created on the surface of the implant with the same architecture as the bone which it abuts, thereby having the possibility to optimise new bone formation to physiologically stabilise the implant.

How long does it take to 3D print an implant?

This is a batch-type process and, theoretically, implants of all shapes and sizes can be produced at any one time. From a practical perspective we limit the number of implants to coincide with a 24-hour cycle.

Are there any risks to using a 3D printed implant?

There are low risks with any surgical implant. With all the cases we have performed so far, we have yet to see a failure of the implant after the procedure.

Where do you see this technology going in the future?

This technology has huge potential as what can be printed is infinitely variable. The plan is to develop implants for other surgeries such as custom-made hip replacement implants and mandibular reconstruction plates.

For more information, please email: info@fusionimplants.com.



Short plate x-ray

Liverpool hosts inaugural symposium





LUVZS 2013/14 and national veterinary students with the Worldwide Veterinary Service and Save the Rhino charity representatives

Students at the School of Veterinary Science are leading the way in a national initiative to promote the importance of zoological medicine education in degree programmes. The Liverpool University Veterinary Zoological Society (LUVZS) organised the first national symposium on the issue. Andrew Rich, LUVZS President for 2013/14, reports on the event.

More than 140 delegates and students attended an inaugural national symposium organised by LUVZS as part of a national student initiative to increase the amount of zoological medicine education.

Students and delegates from across the UK took part in a series of practical rotations, animal handling sessions, debates and talks by some of the world's leading zoological experts, with practical elements including necropsies of Atlantic Grey Seals, a Harbour Porpoise and a theoretical lecture-based Baboon necropsy.

The lectures had a variety of themes, from the study of myoglobin in diving marine mammals to taste perception in birds, while representatives from Save the Rhino International, Worldwide Veterinary Service, Knowsley Safari Park and Chester Zoo were guest speakers. Representatives from Knowsley led a debate around population control in zoos following the controversial euthanasia of Marius the Giraffe.

The symposium brought together some of the most acclaimed zoological researchers in the world. Since the event. Dr Michael Berenbrink from the University's Department of Evolution, Ecology and Behaviour and Dr Paul Jepson from the Zoological Society of London have been collaborating to publish key research regarding how mammals are adapted for diving to extreme depths.

Current President of the British Veterinary Zoological Society, Michael Stanford, encouraged student involvement in zoological research and the pursuit of zoological specialisms. Conservation medicine is still a developing veterinary field and requires more zoological specialists and researchers internationally to assist in the rehabilitation, translocation and protection of endangered animals and their environment.

The UK vet school zoological societies hope to encourage more students to get involved by organising two zoological symposia annually, in an effort to highlight to vet schools the importance of zoological medicine in the education of vet students.

Zoological medicine is now an area that veterinary surgeons encounter regularly in practice, and zoos and private collections are now looking to local practices to provide treatment.

LUVZS would like to thank the delegates, speakers and sponsors Bayer, Vetronic Services Ltd and VetARK Professional. The Society is also grateful for the support of the University's School of Veterinary Science in providing facilities and expertise.

For more information about LUVZS, or if you are interested in giving a talk to the Society, please get in touch: ulvaa@liverpool.ac.uk.



Exotic Animal Handling sessions given by the Ark Animal Experience

50-year reunion

The 50th anniversary of the class of 1964 was celebrated in June with Eifion and Mollie Evans hosting a reunion from their home in North Wales.

A programme of activity was organised making full use of the beautiful Welsh countryside. The group visited Portmeirion, lunched at Penygwryd Hotel (where Edmund Hillary trained for his ascent of Everest), and walked in the Nant Ffrancon valley as well as along the Lleyn coastline, finishing off in Tŷ Coch, a renowned beach pub.

Many of the group had not met for a number of years and it was interesting to hear of the different aspects of the profession which had been followed by its members. The group plans to meet up again in three years following an invitation by Howard and Chris Hughes to gather in Perth, Australia.

In attendance (names in bold appear in the photograph below): Eifion and Mollie Evans, Bob and Heather Duckworth, Mick and Gill Evans, Howard and Chris Hughes, Dick and Jan Fox, John (Sid) and Jean Mann, Malcolm Charnock, Peter Gough, Bruce and Catherine Lawson, Tony and Patricia Edginton, Trevor and Siân Jones.



A detailed account of the weekend by John Mann can be read at: www.liverpool.ac.uk/alumni/vets/ bvsc64.

If you have hosted a reunion event that you would like featured in the next edition of veterinary alumni news, please email: **ulvaa@liverpool.ac.uk**.

In memoriam

We regret to announce the deaths of the following: Martin Cleaver (BVSc 1974) Robert Sharp Dugdale (BVSc 1942) Heather Brownrigg Kendall (BVSc 2001) Edward David Deirne Riley (BVSc 1953) Richard John Wignall (BVSc 1974)

New CT scanner for Small Animal Teaching Hospital



CT scan: dog with a spinal fracture

The most advanced CT scanner to be used at a veterinary hospital anywhere in the world has been installed at the Small Animal Teaching Hospital (SATH), as part of continued investment in new facilities.

As a result of the speed and coverage of the new Toshiba Prime scanner, many patients who previously required general anaesthesia for imaging can now be imaged with sedation or even while still conscious.

The scanner allows advanced and novel imaging capabilities to take place at the SATH, with the introduction of ECG gated cardiac CT and brain perfusion imaging. Modern CT scanners allow exceptionally detailed anatomical images to be produced which, in addition to allowing a more accurate diagnosis, will be used for enhancing teaching of anatomy to students.

Veterinary CT is an expanding field and the imaging team at Leahurst has a wealth of experience and one of the busiest advanced imaging caseloads in the UK.

For more information about the SATH visit: **www.liverpool.ac.uk/sath.**

New horseracing MBA

The world's first Master of Business Administration (MBA) degree in Horseracing Industries will be launched next year, following a successful bid by the University's School of Veterinary Science and Management School for support from the British Horseracing Authority and the Horserace Betting Levy Board.

Modelled on the University's well-established Football Industries MBA, the programme is designed to cover general areas of business management with additional modules specific to horseracing, such as the management of racecourses and training establishments, marketing, advertising, sponsorship, bloodstock management, and relevant veterinary issues.

Horseracing is the second largest sporting group after football, providing ample opportunity for graduates of the programme in the UK and worldwide, as well as helping to increase the profile of both the School of Veterinary Science and the Management School in the horseracing industry. The first cohort of students will be admitted in autumn 2015.

Back to our origins



Figure 1: Block plan of the University buildings from the 1907/08 Student Handbook: the arrow points to the original 1904 site of the School of Veterinary Science, X marks the site of the separate premises provided in 1908/09 on Brownlow Street, the dotted line shows the section of railway cutting still visible today. By courtesy of the University of Liverpool Library (ref: SPEC R/LF377.A1.U55).



Figure 2: The façade of the premises in Brownlow Street from an etching by Ernest Coffin c1920. By courtesy of the University of Liverpool Library (ref: S2957/9).

We would like to thank Nicola Beesley, ULVAA Communications Officer, for coordinating this issue for the Association.

ULVAA committee member Roger Ewbank (BVSc 1957, MVSc 1970) traces the early history of the School of Veterinary Science buildings.

After my retirement in 1996, I began to investigate the transfer in 1904 of the independent New Veterinary College which laid the foundations for the University's School of Veterinary Science, when Professor Owen Williams and his reputed 60 students moved down to Liverpool from their custom-built premises in Edinburgh.

It was in the veterinary section of the documentary archives held in the University's Sydney Jones Library that I came across a university plan (Figure 1) in the 1907/08 Student Handbook, which identifies the original site of the School of Veterinary Science – the exact same location which the School recently relocated to in 2013.

In 1908/09, separate premises were provided for the School in Brownlow Street, alongside a railway cutting. This building (Figure 2) was demolished sometime in the 1930s, although the site (marked with an X on Figure 1) can be viewed from Brownlow Street on the north side of the railway cutting.

My activities both in the Royal College of Veterinary Surgeons' library and in the University archives made me realise how little information has been kept. Much of the material appears to have been received from individuals' donations or by chance. To ensure that potential archive material is routinely assessed and relevant documentary evidence is retained for use by those interested in the past, ULVAA is collating an electronic archive of newsletters.

If you have any newsletters that we could loan and copy, please get in touch: **ulvaa@liverpool.ac.uk**.

Online survey

The University of Liverpool Veterinary Alumni Association (ULVAA) wants to hear from you. All feedback from members is invaluable in helping the Association to ensure activities are as appealing and relevant as possible, so please complete our short online survey to give us your views: www.liverpool.ac.uk/ulvaa. You can also get in touch with us to share your news and views, whether you're organising a reunion or would like to get involved, by emailing: ulvaa@liverpool.ac.uk.