

Research links vitamin D and health outcomes

International Accreditation awarded
Athena SWAN Silver success
Major investment to boost company creation
Investors in Young People accolade



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Message from Head of School

Dear Friends,

Capturing recent successes in the Dick Vet News allows me to reflect on achievements across the Easter Bush Campus over the past year. It has been an incredibly busy period, with colleagues working collectively to reinforce our position as an international leader in veterinary education, research and clinical practice.

In November 2015, we experienced our seven year veterinary programme accreditation visitation from the major international accrediting bodies. The visitation teams included representatives from The Royal College of Veterinary Surgeons (RCVS); The American Veterinary Medical Association (AVMA); The Australasian Veterinary Boards Council (AVBC) and The European Association of Establishments for Veterinary Education (EAEVE). We recently heard that we have received full accreditation from all bodies for a further seven years (the maximum allowed), a comprehensive endorsement of our strong teaching, research and clinical programmes and our commitment to delivering an outstanding student experience. This also recognized the outstanding quality of our students and staff.

Our research excellence and impact was also recognized in the most recent Research Excellence Framework (REF) exercise in which our joint submission with Scotland's Rural College (SRUC) was ranked most powerful in the UK. Our research was scored particularly highly for impact, underlining how our research is bringing practical benefits for society in human and animal health, as well as food and environmental security.

The Campus has developed a strong ethos around delivering an outstanding student experience, coupled with a commitment to staff support and career development. The recent award of Athena SWAN Silver status (for both the school and the Roslin Institute) recognizes our policies to promote gender equality and address particular challenges for women in science. Similarly, our Investors in Young People Silver Award demonstrates our commitment to providing opportunities and experience to young people within the local community and on Campus. Our recent recognition for Community Engagement in the prestigious Scottish Enterprise Life Science Awards is further acknowledgement of our investment in the local area. I am particularly grateful to the staff and students who have driven these processes for the Campus and have made this an exceptional place to work.

Our investment in the Campus continues at a pace. Emerging from the centre of the Campus is the new £32m Campus Hub that will house the Roslin Innovation Centre and new facilities for students including shop and gymnasium. Over the two upper floors, the Innovation Centre will provide space for a broad range of companies – from existing large scale enterprises to young and growing companies – alongside a space for science outreach. The theme of commercializing research and growing companies forms a central point of our strategy. Our recent announcement relating to the formation of Roslin Technologies Ltd, underscores our ambition to maximize the commercial impact of our world-leading research.

The Campus Hub is not the only new building in construction. May 2016 sees the start of construction of our new Equine Diagnostic, Surgical and Critical Care Unit, which will set the standards for excellence in equine education and clinical practice. We have also recently secured funding for a new Large Animal Research and Imaging Facility (£25m) and development of an on-campus nursery, our intention being that construction will begin in 2017.

One of the most exciting opportunities for 2016 has been the University approval of our new Global Academy of Agriculture and Food Security. Representing a £35m investment by the University, this new academy will provide educational and research opportunities providing solutions to the grand challenges of global food security. This will also underpin our international standing in animal and agricultural bioscience and complement the recent award (£15m) of two major programmes from the Bill and Melinda Gates Foundation. Our collaborations in research and teaching go across the globe, including programmes in China, India and Africa and student exchange visits, such as those with our colleagues and friends at the University Veterinary School Hokkaido, Japan.

The content of this issue of the Dick Vet News speaks for itself, but our success is due to the commitment of our exceptionally talented staff and students on this Campus whose dedication allows us to go from strength to strength.

Professor David Argyle

Dog study seeks to explore health benefits of vitamin D

Pet dogs are taking part in research to investigate the effects of vitamin D on their health.

Studies have begun to understand better how dogs acquire vitamin D, which has been linked to animal health and wellbeing. Researchers also hope to learn more about whether it has any benefits for animals recovering from surgery.

The research aims to improve health outcomes for pets receiving veterinary care.

In the first of the studies, vets are assessing pet dogs that have had surgery to repair damage to their knee ligaments. All of the animals involved in the research have been injured spontaneously, typically while on a walk with their owners.

Previous studies have shown that animals with lower levels of vitamin D in their blood often show signs of increased inflammation. Researchers will examine whether inflammation linked to reduced vitamin D can hamper dogs' recovery from surgery.

Blood samples will be taken before and after surgery to allow the team to measure vitamin D and any symptoms of inflammation.

The team will then monitor the dogs to see whether having higher levels of vitamin D before surgery has a positive effect on their recovery.

If a link is found, researchers will test if vitamin D supplements can help to lower inflammation and improve chances of better recovery from surgery.

In a separate study, vets will investigate how dogs acquire vitamin D in the first place. It is widely thought that dogs get most of their vitamin D from their diet.

The research will explore whether dogs can also produce vitamin D in their skin after exposure to the sun, in the same way that people do.

Scientists will take blood samples from pet dogs to examine whether levels of vitamin D fluctuate with the changing seasons.



The findings will help to determine whether dogs are getting enough vitamin D in their diet throughout the year.

All of the dogs taking part are owned by local people who have given permission for their pets to be studied.

Dr Richard Mellanby, Head of Veterinary Clinical Research and Companion Animal Sciences at The Royal (Dick) School of Veterinary Studies, said: "Vitamin D plays a vital role in bone health and there is growing evidence that it has other health benefits for people and animals.

Our research aims to understand whether dogs' vitamin D levels fluctuate throughout the year, which is important for making sure we're feeding our pets the right diet."

"We're also interested in how vitamin D affects recovery after surgery and whether having less vitamin D is a cause or consequence of inflammation. Untangling this complex relationship will help us to devise new approaches to improve the welfare of animals after surgery."



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Dr Richard Mellanby
 Head of Veterinary Clinical
 Research and Companion Animal
 Sciences at The Royal (Dick) School
 of Veterinary Studies

School receives international accreditation

The School has achieved full accreditation for the next seven years from major international councils on education.

This national and international accreditation follows a detailed review process and major visitation in November 2015 and subsequent consideration by each of the visiting councils.

The School has been accredited by The Royal College of Veterinary Surgeons (RCVS); The American Veterinary Medical Association (AVMA); The Australasian Veterinary Boards Council (AVBC), The European Association of Establishments for Veterinary Education (EAEVE).

Commenting on the accreditation, Head of The Royal (Dick) School of Veterinary Studies, Professor David Argyle, said:

"We are extremely pleased to have been accredited for the next seven years following the visit in late 2015. This recognises our strong educational programme, underpinned by a commitment to an outstanding student experience."

Our major investment into the quality of our Campus has created exceptional facilities for teaching, research and clinical service and our academic staff share a commitment to excellence in teaching with a clear focus on the high quality of the learning environment.

The reports following the visitation were very complimentary and emphasised the high calibre of our students and staff. Our accreditation by these national and international councils is excellent recognition of our commitment to the highest possible standards in veterinary education."

Vet School awarded Athena SWAN Silver Accreditation

The Royal (Dick) School of Veterinary Studies has been awarded the Athena SWAN Silver Award in recognition of its commitment to women's career development.

The Athena SWAN Charter recognises and celebrates good employment practice for women working in science, engineering and technology in higher education and research.

Granted for a three-year-period, the Silver award follows the award of the Athena SWAN Bronze accreditation to the School in 2013.

The School has received the award in recognition of its policies to promote gender equality and address particular challenges for women within science.

Head of School, Professor David Argyle, said: "We are delighted to have been awarded Athena SWAN silver accreditation. This reflects our clear commitment to gender equality and support for career development and progression for women. We have embraced and embedded the Athena SWAN principles for the benefit of all our staff - men and women alike.

The process of achieving this accreditation is extremely rigorous and has been made possible as a result of a lot of hard work by staff and, in particular, Cat Eastwood and Professor Anna Meredith who led on our submission."

Professor Anna Meredith, who led the Athena SWAN submission on behalf of The Royal (Dick) School of Veterinary Studies, commented: "As a vet and working mother who has had to balance the demands of an academic and clinical career with family commitments, as do so many of my professional colleagues, I was delighted to lead this successful submission for this Silver award."

Investors in Young People (IYP) Silver Award

The Easter Bush Campus has been awarded Investors in Young People – Silver Award status.

The Campus is the first part of The University of Edinburgh to hold Investors in Young People accreditation.

This accolade for the Campus demonstrates our commitment to providing opportunities and experience to young people within the local community. Following the assessment process, the external assessor complimented the Campus' strong, positive and supportive culture; good training and development opportunities; readily available internal and external

support networks and approachable and supportive management.

Commenting on the recognition, Val White, Campus Operating Officer said: "We are delighted to have been awarded Investors in Young People Silver status. We are already putting in place a number of new initiatives, including participation in the Career Ready Scheme, Science Insights, the development of a Youth Forum, as well as being actively involved in the development of new apprenticeships on the Campus. We are committed to providing an excellent environment for young people and plan to build on this in the future."



**INVESTORS
IN YOUNG
PEOPLE**

**GOOD
PRACTICE
AWARD
SILVER**

Kelpies visit Easter Bush

Mini versions of the world’s largest equine sculptures took pride of place on Campus during the winter.

The three metre-high maquettes of The Kelpies, the rearing heads of two Clydesdale horses, were previously on display in Old College Quadrangle.

The versions are an exact 1:10 replica of the 30 metre-high sculptures located at Falkirk’s Helix Parkland.

Created by artist Andy Scott, the Kelpies opened to the public in April 2014. The maquettes arrived at the University after travelling the world. They have been on display in New York’s Bryant Park, Chicago’s Grant Park, and at last year’s Ryder Cup in Gleneagles.

On Wednesday 18th December a special event was held in the Atrium to mark the Kelpies visit to the Campus. Professor David Argyle welcomed staff and invited guests to the event and Peter Reid, Growth and Investment Manager from Falkirk Council spoke about the Kelpies and their journey in arriving at Easter Bush. Vice Principal, Professor Mary Bownes, added her welcome and the opportunity to brave the elements to see the Kelpies at close quarters.

- 01. The Kelpies arrive at The Easter Bush Campus having been in place at Old College before.
- 02. The utmost care is used moving the sculptures into place.
- 03. New York, Chicago and now..... Easter Bush!
- 04. Prof David Argyle was delighted to welcome their sculptor, Andy Scott, to the Campus.
- 05. Head of School meets Colin Beattie MSP, along with his wife, Lisa.



01



02



03



04



05

Campus Leads UK in Research Excellence Framework

Veterinary and agricultural research at the University of Edinburgh and Scotland's Rural College (SRUC) has been ranked as most powerful in the UK in the Research Excellence Framework (REF).

The REF process is an assessment of the quality of the research being undertaken at UK Higher Education Institutions and the impact it has in society. It is held every 5 to 7 years and is the key independent measure of research quality in the UK.

The quality and volume of research assessed ultimately influences the allocation of funding by the UK's Higher Education Funding Councils.

Building on a long history of collaboration and complementary activities, the University's Royal (Dick) School of Veterinary Studies – which includes The Roslin Institute – and SRUC made a joint submission to the REF. Three quarters of the research and related activity submitted was judged to be in the highest categories – 4* or 3* – which are classified as “world leading” or “internationally excellent”.

The impact of the research scored particularly highly. This demonstrates how the research is bringing practical benefits for society – for example in animal health and welfare, agricultural productivity and environmental protection.

Professor David Argyle, Head of The Royal (Dick) School of Veterinary Studies said: “This outstanding result is a clear demonstration of the benefits that the University and SRUC research is bringing to human and animal health, as well as food and environmental security.”

Professor David Hume, Director of The Roslin Institute, said: “Edinburgh's submission to the Vet and Ag panel included more researchers than any other UK institution in this research area, underlining our breadth and depth of research. The REF results for Roslin and R(D)SVS, together

with SRUC, reflect our world-leading position with regards to research to improve animal health and welfare, which includes work to conserve genetic diversity, control animal disease, develop new diagnostics and therapeutics for animals and humans as well as also improving food quality and safety.

“Our attainment of a 4* rating across the board for research environment cements our position as a world-leading hub for agricultural and veterinary research. I congratulate the hard work and dedication of our exceptional staff that has enabled this achievement.”

More than 76 per cent of the impacts described in the joint submission were judged to be “outstanding” and over 83 per cent either “outstanding” or “very considerable”.

Professor Geoff Simm, SRUC's Vice Principal Research said: “This is an excellent result fulfilling SRUC's ambition for a top three placing on research power.

“It is a fantastic independent endorsement of the returns to society from investment in agricultural research. We thank our University partners for their valuable guidance over several years as we worked towards our joint REF submission.”

This result shows the incredible strength of the research on the Easter Bush Campus. With new £93 million of new facilities due to open in the next few years, including significant investment in new research capability, the research output looks set to grow and strengthen, making the Campus a significant player on the global stage.



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The REF results for Roslin and the Vet School, together with SRUC, reflect our world-leading position with regards to research to improve animal health and welfare, which includes work to conserve genetic diversity, control animal disease, develop new diagnostics and therapeutics for animals and humans as well as also improving food quality and safety.

Our attainment of a 4* rating across the board for research environment cements our position as a world-leading hub for agricultural and veterinary research. I congratulate the hard work and dedication of our exceptional staff that has enabled this achievement.

Professor David Hume
Director of The Roslin Institute

Muesli-style foods can harm rabbits' health



Feeding rabbits muesli-style foods can lead them to develop painful dental and digestive problems.

The study at the Dick Vet showed that this type of food – with or without hay – can cause a number of health problems in rabbits.

This includes slower gut motility, which can put rabbits at a high risk of gut stasis - a potentially fatal condition that hampers the digestive process.

Reduced hay intake, as a result of feeding muesli-style foods, can also lead to abnormal teeth growth, causing dental disease.

The research led by Anna Meredith, from the Dick Vet's Exotic and Animal Wildlife Service, also found that muesli made rabbits more susceptible to urinary tract problems as such a diet can lead to a reduced water intake.

The study has led to retailers removing muesli-style rabbit food from their shelves.

While the research only looked at rabbits, it may also have implications for other small animals that require diets high in fibre, such as guinea pigs, chinchillas and degus.

Researchers have also shown that a muesli-style diet can lead to obesity and behavioural changes for rabbits.

Breeding a scrapie-resistant sheep flock

Research at The Roslin Institute has led to selective sheep breeding programmes providing farmers with scrapie-resistant flocks.

Scrapie is a transmissible spongiform encephalopathy (TSE) of sheep and goats, which has a considerable economic impact on farming. As a notifiable disease, affected farms face severe trading restrictions and can lose a significant number of animals.

Pioneering work from the early 1990s by Professor Nora Hunter and Dr Wilfred Goldmann showed a strong association between prion protein genotype and scrapie susceptibility in sheep.

Further research, including epidemiological studies, consolidated findings showing genotypes of sheep that were both susceptible and resistant to scrapie. This work led to the implementation of the UK National Scrapie Plan, which ran from 2001 to 2009 and to similar breeding programmes throughout the EU.

Research looking at goat scrapie genetics has now also identified new scrapie-resistant goat prion proteins. It is hoped that this will lead to potential scrapie-resistant goat breeding programmes on commercial farms.

Boost to salmon farming

Research from The Roslin Institute is helping salmon farmers to breed fish that are more resistant to a deadly virus – infectious pancreatic necrosis.

The discovery is estimated to be worth around £26 million per year to the UK salmon farming industry. In a severe outbreak of pancreatic

necrosis more than 90 per cent of farmed fish can be lost.

The research, funded by the Biotechnology and Biological Sciences Research Council, demonstrated that resistance to the disease can be inherited.

It also showed how genetic differences were almost entirely

due to variation in a single stretch of DNA in the salmon genome.

Fish with two copies of the resistant variant stretch of DNA were found to have negligible mortality to the virus.

The research has implications for incorporating virus-resistance into selective breeding programmes.

Animal sciences investment aims to boost company creation

A new company has been formed to maximise the commercial impact of Edinburgh's world-leading animal science research.

The company – Roslin Technologies Ltd – has been launched to facilitate the commercialisation of research from The Roslin Institute and Royal (Dick) School of Veterinary Studies.

It offers one of the world's largest investment opportunities in research projects aimed at improving animal health and raising agricultural productivity.

The University has partnered with Edinburgh-based private equity advisor JB Equity, who are raising an initial £15 million to support the venture.

Roslin Technologies will offer opportunities for investors looking to capitalise on the growing demand for food and agricultural products.

It will be led by a specialist team of investment managers with expert knowledge in animal science, big data and project management. The team aims to raise further investment that will support the creation of licensed spin-off companies.

The Roslin Institute – which receives strategic funding from the Biotechnology and Biological Sciences Research Council – is located with The Royal (Dick) School of Veterinary Studies on the University's Easter Bush Campus.

Research on the Campus is focused on the applications of basic animal sciences in human and veterinary medicine, the livestock industry and food security. It was ranked as most powerful in the veterinary and agricultural research category of the UK Government's most recent Research Excellence Framework (REF) – the system for assessing quality of research in UK higher education.

Professor David Hume, Director of The Roslin Institute and Research Director of The Royal (Dick) School of Veterinary Studies, said: "This investment is recognition of the excellence of animal sciences research in Scotland. It is especially timely as we become major partners in a UK Agri-Tech Centre of Excellence,

and also form a joint venture with the International Livestock Research Institute in Nairobi with support from the Bill and Melinda Gates Foundation."

Hugh Edmiston, Director of Corporate Services at The University of Edinburgh, noted that the investment reflects the ongoing commitment and success of the University in commercialisation of its research. He said: "The co-location of Roslin Technologies in the new Roslin Innovation Centre, currently under construction on the Easter Bush Campus, will provide unprecedented opportunities for researchers to access business and commercialisation expertise as well as funding."

Martin Hjorth-Jensen, Chairman of JB Equity, said: "With a global population increasing beyond nine billion by 2040, innovation and investment in animal science and genetics will be critical to ensure global food security. We are seeing an

ever-increasing appetite for investment in technology advancements in animal health and agriculture and Roslin Technologies will provide a channel for those funds to help accelerate these projects."



The co-location of Roslin Technologies in the new Roslin Innovation Centre will provide unprecedented opportunities for researchers to access business and commercialisation expertise as well as funding.

Hugh Edmiston
Director of Corporate Services
The University of Edinburgh

EUSA Teaching Award



Julie Dickson (far left) won the Best Overall Teacher - The Award for Teaching in Veterinary Sciences

The 2016 Teaching Award in Veterinary Sciences was presented to Julie Dickson, with congratulations also due to Sharon Boyd who was the shortlisted nominee in the same award.

The Commendations are part of the annual Edinburgh University Students Association (EUSA) Teaching Awards, an entirely student-driven initiative.

The awards aim to recognise teachers, support staff, courses and learning communities across the University that have a significant positive impact on students' learning experiences.

Shortlisted nominees were chosen by a student panel, based on the number of nominations and their supporting statements.

Head of School wins prestigious veterinary award



From left to right: Professor David Argyle, James Swann, Vernon Hill, Professor Sheila Crispin and Dr Cathryn Mellersh.

Professor David Argyle has been honoured with a major veterinary award.

The International Canine Health Awards, run by the Kennel Club Charitable Trust, presented Professor Argyle with the award for his work identifying stem cells in cancer which are responsible for the devastating disease.

The Awards were presented at the 8th International Conference on Advances in Canine and Feline Genomics.

In addition to Professor Argyle's award, other awards were made to Dr Cathryn Mellersh, Head of Canine Genetics at the Animal Health Trust; Professor Sheila Crispin, who has devoted her life to comparative eye disease as a researcher and clinician and James Swann, Senior Clinical Training Scholar in Small Animal Internal Medicine at the Royal Veterinary College.

The winners were given prize money to further their work in the field of canine research, underwritten by a major gift from Vernon and Shirley Hill of Metro Bank. Professor Mellersh and David Argyle were each awarded £20,000 for their International Awards, Sheila Crispin was awarded £10,000 for the Lifetime Achievement Award and James Swann was granted £5,000 for the Student Postgraduate Award.

Launched at Crufts in 2012, the International Canine Health Awards were developed to recognise and reward innovative researchers,

veterinary scientists and students who are significantly impacting the health and well-being of dogs.

The awards are judged by a panel of influential representatives from the veterinary profession and the world of scientific research.

“

The winners of these awards have been behind some of the most important breakthroughs in our understanding of canine diseases in recent years. Their ongoing work in their respective fields will have huge implications for the health of dogs in the future and, in many cases, for the human population as well.

These winners are also remarkable for the time and dedication they have shown to sharing their knowledge and expertise with others. We could not have hoped for more deserving winners and we thank them for helping us to transform dog health through science and genetics.

Mike Townsend
Chairman of Trustees at the
Kennel Club Charitable Trust

Award for oncology work

Professor Argyle won his International Award for the work that he has carried out identifying stem cells in cancer which are responsible for the devastating disease, which affects one in three dogs at some point in their lifetime. By isolating and studying cancer stem cells in dogs, he has transformed our understanding of how the cancer stem cells drive cancer progression, opening up the possibility of new treatments.

He has looked at how cancer stem cells survive in the body, often becoming immune to chemotherapy and radiation, and has identified an important protein that seems to be critical to understanding how cancer survives and spreads. Professor Argyle hopes that the insights into the dog population will also benefit people. He has dedicated his career to fostering excellence in others, developing the Edinburgh Clinical Academic Training Programme

for Veterinarians, funded by the Wellcome Trust, which provides top class vets with funding to complete a PhD and post-doctorate or clinical training.

Speaking about the award, Professor Argyle said: "Cancer is a disease that has a devastating impact on both the dog and human populations and I am honoured that my work has enabled me to develop a greater understanding of how the disease develops and spreads. I am very proud that this work has been recognised and delighted that the money from the award will enable me to fund a postgraduate student to study the protein we have identified as causing the spread of cancer, enabling us to take this vital research to the next level. This will have huge implications not only for dogs, but potentially for humans as well, meaning that dogs really are a man's best friend."

University works with partners in India to encourage research and teaching links

Academics from across the University of Edinburgh, including from the Dick Vet, visited India to take part in a range of events to encourage new research and teaching links.

The events, which took place at locations including Delhi, Kolkata, Chennai, Mumbai, included conferences, public talks and school visits. They incorporated a wide-range of topics such as genetics, animal science, clean energy and the role of women and migrant workers in the Indian economy.

Experts from The Roslin Institute, the Dick Vet, and Scotland's Rural College took part in a conference in Delhi. The conference discussed challenges faced by farmers in India and included looking at ways that welfare standards and production rates could be raised.

Professor Bruce Whitelaw, head of developmental biology at The Roslin Institute, said: "Farming in India is different to that in the UK, because India has many more smaller farmers as opposed to the large-scale industry predominant in the UK. There are issues that are common to both countries, such as how to prevent disease and improve reproductive efficiency, as well as those which relate to how to manage small population of animals that the small-scale farmer needs to address on a daily basis."

A Memorandum of Understanding was also signed between the University of Edinburgh and the Indian Council of Agricultural Research, further enhancing relationships between the two organisations.

Other events included a conference in Kolkata – Nation Building in India – which examined the role of government relations between the UK and India.

The visit to India involved around 30 academics from all three of the University's Colleges, with the aim of encouraging new research and teaching links.

Staff Awards Success

Winners at our staff awards were voted for by staff and students and recognised for their outstanding contributions across all areas of the School.

Categories ranged from Outstanding Clinician and Outstanding Clinical Research Award, to the award for Innovation and a special award to our 'Up and Coming Vets', which was won by James Crilly and Rachel Jago.

Two special awards for long service were presented by the Royal Highland and Agricultural Society of Scotland to Archie Aitchison and David Pierce.



Research Student Day 2016

A wide range of topics were covered in the annual Research Student Day on Wednesday 27th April, with oral and poster presentations given by Graduate students from The Roslin Institute, Scotland's Rural College, the Dick Vet and the Moredun Research Institute.

The day finished with the Charnock Bradley Lecture delivered by Prof Brian Walker, Professor of Endocrinology, Head of the BHF Centre for Cardiovascular Science and Dean of Research for the College of Medicine and Veterinary Medicine. Prof Walker delivered the lecture on 'Controlling cortisol in cardiovascular disease'.

The prize winners were:

Final Year Talks:

Winner: Jolinda Pollock, Runners up: Dean Houston and Grace Smith

First Year Posters:

Winner: Emily Parr, Runners up: Fiona Allan and Prasun Dutta

Second Year Posters:

Winner: Tom Marchant, Runners up: Laura Vezza and Zofia Lisowski

Third Year Posters:

Winner: Lin Cui Lin, Runners up: Oluyinka Abejide, Laura Glendinning

MSc: Emily Anderson

Clinical Scholar: Gemma Pearson



Prize winners are pictured with Prof Brian Walker; Prof David Hume; Prof Richard Cogdell and Prof Bernadette Dutia

Experts discuss how better animal health and welfare can aid human medicine

A two-day animal welfare conference culminated in the signing of a Memorandum of Understanding between the Hong Kong Government and The University of Edinburgh.

The Animal Health and Welfare Collaboration agreement relates to veterinary education and research co-operation between the Hong Kong Government and the University of Edinburgh.

It was signed at the end of a two-day international workshop - Applied Veterinary Research: Advancing Human & Animal Health and Welfare. The workshop, attended by around 200 delegates, looked at how scientific discovery in the field of veterinary research can translate into clinical practice to benefit both animal and human welfare.

It was co-organised by the Hong Kong Government's Agriculture, Fisheries

and Conservation Department (AFCD) and the Dick Vet.

Delegates included experts from international health organisations, Mainland China and overseas veterinary authorities, universities, animal welfare organisations, and Hong Kong government departments.

Alan Wong, Director of the Agriculture and Fisheries Conservation Department, described the presentations as interesting and thought-provoking.

"The discussions on the topic of 'One World - One Health' and how collaboration between different professionals may produce synergistic benefits have been productive," he said.

As part of the event, The William Dick Memorial Lecture was given outside the UK for the first time. The lecture - 'Bridging basic science and clinical medicine for improving animal health and welfare' was presented by

David Argyle, William Dick Professor of Veterinary Clinical Studies and Head of The Royal (Dick) School of Veterinary Studies.

Professor Nat Waran, International Associate Dean for The Royal (Dick) School of Veterinary Studies, said: "This international workshop has enabled us to explore not just our existing knowledge but to discover new opportunities for international collaboration and knowledge transfer, to ensure the exponential growth in technologies and our understanding is translated into improvements in the health and welfare of animals and humans."

Artist at Easter Bush

Andrea Roe is Leverhulme Trust artist in residence at SRUC, and based at the Easter Bush Campus until January.

Whilst on Campus, she will be investigating the concept of naturalness in animals by observing and responding to current practice in farm animal breeding.

Andrea has previously collaborated with Dr Andrew Gardiner, and has undertaken participatory fieldwork across veterinary disciplines. She is interested in sharing practice and in trying to view our interactions and interventions with animals from a new perspective.

She will be running art workshops at Easter Bush open to staff and students across all areas. Some will be thematic to unpack ideas related to animal behaviour and welfare issues. Other workshops will be

experimental and aim to open up and encourage creative and visual thinking around animals and how we think about them. Sessions will be held in the autumn specifically devised for veterinary students to learn new skills and processes as a build up to the Dick Vet Art competition, at the end of October.

Andrea has held residencies at the Wellcome Trust and the National Museum of Scotland, and teaches at Edinburgh College of Art. She has previously co-organised workshops and exhibitions with veterinary and art staff and students which explored research at The Roslin Institute, 3D printed bones as teaching tools, horse anatomy, and a taxidermy masterclass bringing students together to stimulate discussion around anatomy, art and animal ethics.

Buzz about the Bees

This May, the Easter Bush Campus welcomed members of Edinburgh and Midlothian Beekeepers' Association (EMBA) to host beginners' classes in beekeeping.

The 18 strong class comprised veterinary students, PhD students, researchers and staff from across the Campus. The course was led by Alan Riach (Education convenor for the Scottish Beekeepers Association/EMBA), Mark Barnett (Roslin/EMBA), David Wright (EMBA) and Matthew Richardson (University of Edinburgh Apiary project/EMBA). Many aspects of beekeeping were covered and put into practice at the recently established apiaries at Easter Bush and at King's Buildings. The apiary on Campus is being developed as part of a honeybee research initiative led by Prof Tom Freeman, to enable staff and students to engage in beekeeping as a lunchtime or after work activity and contribute to environmental sustainability.

If you are interested in future beekeeping courses on Campus, please contact Mark Barnett: mark.barnett@roslin.ed.ac.uk.

Animal experts aim to keep Europe safe from infection threat – collaboration between EBRC and Zoetis

A European collaboration of veterinarians, scientists and technical specialists will work to identify emerging diseases in livestock and companion animals.

The collaboration involves the Easter Bush Research Consortium, which encompasses The Roslin Institute, the Dick Vet, Scotland's Rural College (SRUC) and the Moredun Research Institute, and the health company Zoetis.

Expertise will be coordinated through a hub in Edinburgh, incorporating genetic sequencing, molecular biology, laboratory diagnostics and infectious disease surveillance, along with Zoetis' research and development and specialist infectious disease capabilities.

"Zoetis is committed to supporting the veterinary community with research to better understand emerging infectious diseases," said Michelle Haven, a veterinarian and senior vice

president of the company's Corporate Development, Alliances and Solutions.

"Enhanced surveillance to identify these threats early makes it possible to speed development of high quality, effective medicines and vaccines to help control these diseases. By working together, we can advance unique solutions to the evolving and complex threats of emerging infectious diseases in Europe."

The collaborative initiative will involve a multi-disciplinary team with knowledge relating to emerging infectious disease surveillance and rapid response. This will also include detecting new pathogens through genomic sequencing.

Professor David Hume, Director of The Roslin Institute, which receives strategic funding from the Biotechnology and Biological Sciences Research Council, said: "What we hope to do is identify at a very early stage any new disease appearing in Europe

and, reaching out to our partners in Africa and Asia, to pre-identify potential threats, fully sequence them very quickly, and identify routes to diagnostics and therapeutics. So it's a perfect partnership."

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The veterinary profession has to play a major role in trying to eradicate or control those diseases. So the collaboration between the EBRC partners and Zoetis in Europe is incredibly important, not just for our research programme but in terms of control of diseases worldwide.

**Professor David Argyle
Dean and Head of School**

Easter Bush Campus recognised for Community Engagement

The Easter Bush Campus was a proud winner of the Community Engagement Award at the prestigious Scottish Enterprise Life Sciences Awards held in Edinburgh.

The recognition highlights our wide-ranging engagement with the

local community. Our nomination reflects our involvement in the Midlothian Science Festival, including the Campus Open Day and contributions to the schools programme, our outreach visits and activities on Campus, such

as the innovative work experience programme 'Science Insights' and our 'Hands-On Pathology – Understanding Disease' event.

It also profiled the work carried out by clinical staff and students who provide advice and a basic veterinary service across a number of Edinburgh Housing Associations, including the student-led veterinary care provided to the homeless in the area.

Professor David Argyle, Head of School, said: "Our relationship with the local community is very important to us and we are delighted to receive this award in recognition of our commitment and our engagement locally.

Winning this award is due to outstanding work and dedication by our staff across a great many initiatives and I am very pleased that this award has highlighted this aspect of our work with the community."



Sustainability Gold Award for Easter Bush Campus



Dawn Windsor, Easter Bush Campus Technical and Deputy Facilities Manager, is pictured receiving the award from Hugh Edmiston, the University's Director of Corporate Services.

The Easter Bush Campus has maintained its Gold status in the Edinburgh University Students' Association (EUSA) sustainability awards.

Particular recognition was given to this year's "On Your Bike" project, with campus cycle initiatives including Science in the Saddle, which formed part of the Midlothian Science Festival.

This involved members of the public joining campus staff and the Midlothian Ranger Service for a 12-mile guided cycle ride, starting and ending at The Roslin Institute. Those taking part could learn about the area's local history as well as about research to improve the health and welfare of farm animals.

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The Campus Sustainability Committee, with representatives from staff and students from across the campus, has worked very hard on special projects in order to maintain its Gold status. It's good to see their commitment and dedication being recognised in this way.

Val White
Easter Bush Campus Operating Officer
and Chair of the Sustainability Committee

Horse sickness shares signs of human brain disorders, study finds

Horses with a rare nerve condition have similar signs of disease as people with conditions such as Alzheimer's, a study has found.

The findings shed new light on the causes of the rare but predominately fatal horse condition and could help to develop new tools for diagnosing the illness.

Scientists say that horses affected by the disease – called equine grass sickness – could also hold clues to human conditions.

Grass sickness attacks nerve cells in horses but the causes of the disease are unknown. It causes gastric upset and muscle tremor and can kill within days. If diagnosed quickly, animals can sometimes be nursed back to health.

Researchers from The Roslin Institute and Royal (Dick) School of Veterinary Studies looked at nerve tissue from six horses that had died from equine grass sickness in a bid to investigate the causes of the condition.

They found that the horse tissue contained proteins that are commonly seen in the brains of people with Alzheimer's disease – such as the build-up of amyloid protein.

In total, 506 different proteins were found to be altered in nerve tissue from horses with grass sickness, compared with animals that had died from other causes.

This knowledge could help to develop tests for detecting the condition in horses, which can be tricky to diagnose.

Around two per cent of horses die from grass sickness each year in the UK. The disease occurs almost exclusively in grass-fed animals, including ponies and donkeys. A similar condition is thought to affect cats, dogs, hares, rabbits, llamas and possibly sheep.

The study is published in the journal *Molecular and Cellular Proteomics*.

Dr Tom Wishart, from The Roslin Institute, who led the study, said: "This is the first study to show similarities between an apparently unrelated neurodegenerative disease of large animals and human neurological conditions. Although the causes of these conditions are unlikely to be shared, the findings suggest that similar mechanisms could be involved in the later stages of disease."

Dick Vet Students Visit Japan on Student Exchange

Nine undergraduate veterinary students took part in an exchange programme, involving a study trip to Hokkaido Island in the north of Japan.

The exchange programme is a long-standing initiative, which provides students from the Dick Vet with the opportunity to learn how their profession is taught and practised in different cultures.

It follows on from the signing of a Memorandum of Understanding with Hokkaido University Graduate School of Veterinary Medicine in 2009. This MOU was also renewed during the exchange visit.

R(D)SVS students participating in the exchange represented many diverse backgrounds, coming from countries including Canada, USA, UK, Hong Kong and Singapore

They were welcomed by the Japanese students with a 'soumen party', where soumen noodles are poured from a great height down a series of bamboo stalks split in half. Diners waiting at the bottom attempt to catch as many noodles as possible with their chopsticks – and those that fail go hungry.

Students visited a new small animal hospital, experimental farm and the internationally-acclaimed Zoonosis Control Laboratory in Sapporo, Hokkaido's main city and home to the university.

A small conference was also held with presentations from leading experts from both Edinburgh and

Hokkaido universities. Topics included oncology, orthopaedics, One Health and veterinary education with several students also getting the opportunity to give presentations.

The exchange then moved to the Shiretoko Peninsular in the northeast of Hokkaido Island, with a focus on conservation and biodiversity. The Shiretoko National park is part of a world natural heritage area and is home to many indigenous species of wildlife including brown bears.

The exchange was led from the Hokkaido side by Prof Tsubota, an expert on the biology of brown bears. Students learnt about many issues affecting bear conservation, including the conflict with tourism. They also learnt about challenges to native forest regeneration due to an over-population of sika deer.

The trip also included a visit to a raptor conservation centre, where students learnt about initiatives such as modifications to electricity pylons to prevent electrocution of Stella and white tailed sea eagles. Students also went on a whale watching trip and took a kayaking tour to see a seal colony.

The tour concluded with a visit to Obihiri Veterinary faculty to learn about farm animal veterinary work and horse practice.

01. Catching soumen noodles as they race past (Photo: Neil Anderson)
02. The conference in Hokkaido University (Photo: Toshio Tsubota)
03. Students visited the Shiretoko Goko Lakes, learnt about the negotiation and research needed to manage the conflict between brown bears and the many tourists visiting the lakes (Photo: Neil Anderson)
04. Stripping of bark from trunks of trees by sika deer is a big problem in Shiretoko and has made regeneration of natural forest very challenging (Photo: Neil Anderson)
05. Whale watching on the eastern side of Shiretoko peninsular (Photo: Neil Anderson)
06. We were accommodated in some fine traditional hotels by our hosts, complete with traditional Japanese host springs called onsens (Photo: Neil Anderson)
07. Much raw fish was consumed during the week in traditional Japanese style (Photo: Neil Anderson)



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Japanese hospitality is second to none and we were accompanied by several Japanese students on the trip giving us all the opportunity to engage and learn more about Eastern culture. The exchange is very valuable to both universities and provides an excellent opportunity to open horizons and make new friends.

Neil Anderson, Programme Coordinator for Conservation Medicine and One Health



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New Undergraduate Education Certificate students visit Liberton High School

Students at the Dick Vet now have the opportunity to gain an undergraduate certificate in veterinary medical education.

The modular programme – believed to be the first of its kind in the veterinary sector – is open to students in the third year of their degree. It includes core and elective components and is completed over the final three years of the veterinary degree.

It also includes holding veterinary science workshops to local secondary school pupils.

Dr Neil Hudson, Senior Veterinary Clinical Lecturer, who leads this initiative at the Dick Vet said: “A key responsibility of veterinary professionals is the education of clients, colleagues and students undertaking extra-mural studies (EMS) placements. We wanted to formally recognise the

important role that students play in the School’s teaching and learning processes and foster students as partners in education through the development of this Certificate.”

Liberton High School is a school involved in the student-led workshops.

David Russell, the School’s depute head teacher, said: “The workshops have generated a genuine ‘buzz’ amongst the S2 pupils and this is testament to the thought, care and attention the veterinary students put into the exercise.”

Sarah Chinnery, a fourth-year vet student, said: “I am doing the Certificate because I think developing my educating skills will make me a better vet in the long run and will help me to communicate with clients throughout my career.”

- 01. Students from the Dick Vet were responsible for designing their own teaching plans.
- 02. The pupils were able to get hands on with demonstrations using live animals.
- 03. By taking this project to local schools, it is hoped to inspire the pupils into degrees in STEM subjects.
- 04. The project was deemed a success by all involved and is now ongoing in partnership with Liberton High School.



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Easter Bush Campus Open Day - Midlothian Science Festival

Saturday 3rd October saw Easter Bush Campus welcome over 400 visitors to the annual Campus Open Day, part of Midlothian Science Festival.

Both the Veterinary Teaching Building and the Roslin Institute building were full of enthusiastic vets, students and scientists running fun, interactive activities showcasing our teaching, clinical and research work.

Visitors to the Veterinary Teaching Building got hands-on with activities demonstrating the wide variety of work on Campus, from helping our farm animal practice to diagnose a pregnancy and deliver a calf to learning how our anaesthesiology team works to keep animals safe during surgery. Brain images and X-rays challenged visitors to diagnose diseases and the

teaching lab was packed with activities from blood typing to bandaging.

The Vet School's state-of-the-art teaching facilities were also on show, with a live pathology demonstration making use of the post mortem viewing room and a guided tour of blood cells using the multi-headed microscope. Tours of the building showed off other teaching facilities including the study landscape and clinical skills lab and our enthusiastic undergraduate student volunteers were able to give visitors a first-hand account of their veterinary training.

It wasn't just staff and students who were hard at work showing off the school – four tortoises, a soft-toy rabbit and a macaw skeleton from the Exotics department helped visitors to learn about treating our more

unusual patients and a model dog primed with fluorescent "bacteria" showed just how easily infections can spread without proper precautions.

Visitor feedback was overwhelmingly positive and people are already buzzing with ideas for next year's event – look out for details of this and other campus events on our website and social media.

- 01. Aspring Vets got to grips with a range of tasks.
- 02. Meeting a furry friend!
- 03. Kevin Eatwell introduces a teaching model.
- 04. Equine staff were on hand to demonstrate investigative techniques.



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RSE Fellowship for Head of School

Head of The Royal (Dick) School of Veterinary Studies, Professor David Argyle, has been made a Fellow of the Royal Society of Edinburgh.

Professor Argyle joins a prestigious Fellowship of around 1,600 individuals who have each demonstrated significant achievements in a broad range of fields.

Membership of the Society hails from sectors ranging from the arts, business, science and technology and academia.

This range of expertise enables the RSE to take part in a host of activities such as providing independent and expert advice to Government and Parliament, supporting aspiring entrepreneurs through mentorship, facilitating education programmes for young people and engaging the general public through educational events.

Professor David Argyle said: "I am delighted to join the Royal Society of Edinburgh. It is an honour to be awarded this Fellowship alongside so many eminent colleagues drawn from such a broad range of sectors. I very much look forward to playing my part in supporting the Royal Society in the advancement of learning and developing the careers of young people.

Professor Dame Jocelyn Bell Burnell, President of the Royal Society of Edinburgh said: "It is fantastic to welcome such a range of outstanding individuals to the Fellowship. Each newly elected Fellow has been nominated on their notable and extensive achievements. In joining the Fellowship, they will strengthen the RSE's capacity to advance excellence across all areas of public life; both in Scotland and further afield."

Professor Susan Rhind appointed Assistant Principal

Professor Susan Rhind, Chair of Veterinary Education and Deputy Head of School, has been made Assistant Principal Assessment and Feedback. Susan will perform her new Assistant Principal role in addition to her responsibilities at the Vet School and will lead on developing strategies to improve the timeliness and quality of feedback across the University.

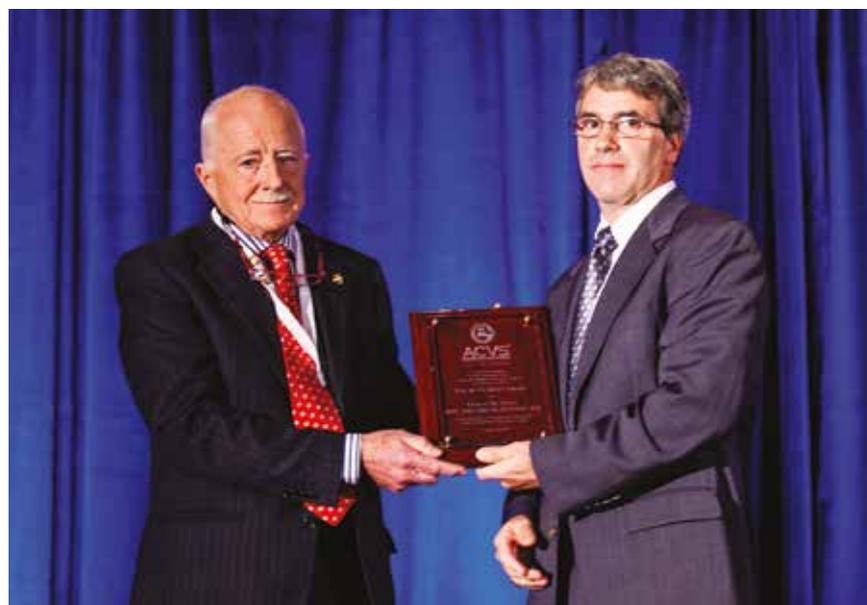


Alex Corbishley joins FAP



Alex Corbishley has joined the Farm Animal and Public Health Section, dividing his time between the Farm Animal Practice and applied research.

Alex recently completed a three-year PhD studentship at The Roslin Institute and Moredun Research Institute, in the areas of bacteriology, immunology and livestock vaccine development. He has considerable clinical experience as a farm animal veterinary practitioner, having worked in Northamptonshire, East Anglia and Shropshire/Cheshire. His future research interests will focus on understanding vaccine performance in the field and developing new vaccine technologies to prevent losses on the farm, protect public health and reduce antibiotic use.



US Award for Paddy Dixon

Congratulations to Professor Paddy Dixon who has received the ACVS (American College of Veterinary Surgeons) Merit Award.

This award recognises non-ACVS Diplomates who have made major contributions to the conduct of veterinary surgery, through the development of methods, techniques, devices and educational aspects of surgery.

Staff recognised for their efforts to improve animal care

Two Dick Vet staff have won prestigious awards for their contributions to the profession.

Heather Bacon won the 2016 CEVA Chris Laurence Vet of the Year award in recognition of her commitment to the continued improvement of animal welfare. As Veterinary Welfare Education and Outreach Manager in the Jeanne Marchig International Centre for Animal Welfare Education, Heather leads education programmes to improve the care of animals around the world.



Dr Richard Mellanby is pictured (centre) receiving his award at BSAVA Congress 2016

Dr Richard Mellanby has been named the 2016 winner of the Petplan Scientific Achievement Award.

Richard is Head of Companion Animal Sciences at the Hospital for Small Animals and a Wellcome Trust Intermediate Clinical Fellow. His research focuses on understanding

the factors involved in the initiation and resolution of inflammation in animals.

Head of the Royal (Dick) School of Veterinary Studies, Professor David Argyle, said: "These awards are fiercely competitive so I am delighted to see two exceptional members of staff recognised for their achievements."

Yvonne Elce joins Equine Surgery



The Dick Vet's Equine Surgery team is delighted to welcome Yvonne Elce.

Yvonne graduated from Vet School in her native Canada before doing her internship at Washington State University and surgery residency at New Bolton Center (NBC) in Pennsylvania. She then worked for several years at NBC before moving on to North Carolina State University, The Ohio State University and mostly recently she was Head of the busy Equine Hospital at the University of Montreal. Yvonne has a passion for giving excellent client service and looks forward to working with the vets and clients in this area to bring the best care possible to their horses.

Erin Williams welcomed as Senior Lecturer in Applied Veterinary Anatomy

Dr Erin Williams has joined the Dick Vet as a Senior Lecturer in Applied Veterinary Anatomy.

Dr Williams has considerable experience in the design and delivery of teaching in veterinary sciences and has contributed to teaching programmes at both the Royal Veterinary College and University College Dublin. She also has a well-recognised research profile in the area of dairy cattle health and fertility, with a particular expertise in the diagnosis and control of uterine infections.



Patrick Burns joins Anaesthesia



Dr Patrick Burns has joined us as Head of Veterinary Anaesthesia and Director of the Hospital for Small Animals.

After graduating from The University of Queensland, Patrick worked in Australia before moving to the University of Pennsylvania, followed by North Carolina and Ohio State.

Patrick's most recent appointment prior to Edinburgh was at the University of Montreal. He is delighted to have joined the Dick Vet, where he plans to continue developing his pedagogic skills and research into the anaesthesia of exotic species, as well as developing the general awareness of the importance of monitoring during anaesthesia.

Nation's top dogs at risk of middle-aged spread

Britain's most popular dog breed can suffer from weight gain in middle age just like people, a UK canine health survey suggests.

Labrador Retrievers gain an average of 0.9kg each year between the ages of one and four, putting them at risk of being overweight by the time they reach middle age, the study shows.

Previous research suggests that, in the UK, Labrador Retrievers are the breed most likely to be overweight. The dogs are fully grown after 18 months and are regarded as being near middle age by the time they reach four. Researchers say putting on nearly 1kg every year after reaching maturity puts many at risk of obesity.

The findings are part of the Dogslife project, which seeks to gain a greater insight into links between the Labradors' lifestyles and their health and wellbeing.

Dog owners provided details of their animals' lifestyle as part of the project, which is led by the University of Edinburgh. The team assessed the activity levels and size of more than 4000 Kennel Club registered Labrador Retrievers as they grew to the age of four.

The study found that, on average, dogs were exercised for more than two hours each day. Dogs that spent more time fetching, chasing and retrieving tended to weigh less, the team say.

Chocolate coloured Labradors were found to weigh, on average, 1.4kg more than yellow and black Labradors. While exercise is important, other factors such as genetics appear to play a role in why some dogs gain more weight than others in early life, the team says.

Initial findings from the Dogslife project will help researchers carry out further studies into the links between dogs' body size, lifestyle and overall health.

The study, published in the journal *Preventive Veterinary Medicine*, was funded by the Kennel Club Charitable Trust, The Roslin Foundation and the Biotechnology and Biological Sciences Research Council.

Dr Dylan Clements, of The Royal (Dick) School of Veterinary Studies and The Roslin Institute, who led the study, said: "Dogslife is a groundbreaking study of canine health, which is made possible thanks to the incredible dedication of dog owners."



Vaccine study shapes plan to wipe out rabies in free-roaming dogs

Rabies could be eradicated from street dogs in India with the help of a new smartphone app, a study has shown.

Researchers are using the app to track free-roaming dogs that have been vaccinated against rabies.

Monitoring them in this way has enabled vets to vaccinate 70 per cent of the dog population in the City of Ranchi – the threshold needed to minimise the risk that the disease is passed to people.

Adopting the approach more widely could help to eliminate rabies from people and animals, the researchers say.

Teams vaccinated more than 6000 dogs in 18 districts of the city of Ranchi, India. They surveyed the number of marked, vaccinated and unmarked, unvaccinated dogs to monitor the proportion of animals that had received the vaccine.

A bespoke smartphone app – called the Mission Rabies app – was developed for researchers to instantly upload information about the animals vaccinated, including their exact location.

In areas where coverage fell below 70 per cent, catching teams were re-deployed to vaccinate more dogs until the target was achieved.

The study was led by Mission Rabies in collaboration with researchers from the Dick Vet. Rabies remains a global problem that leads to the suffering and premature deaths of over 50,000 people and many times more dogs each year.

The disease has been eliminated from many countries through mass vaccination of the dog population. However, rabies elimination remains challenging in countries where the majority of dogs are allowed to roam freely.

Previous research has shown that vaccinating just 70 per cent of the dog population is enough to cut the risk of rabies infections in people.

Dick Vet Researcher, Dr Richard Mellanby said: "We have shown that mobile technology can help to monitor the efforts of large scale vaccination of free roaming dogs in real time. This allows us to identify areas where vaccination needs to be increased to meet the 70 per cent threshold and cut the risk of the disease being passed to people."

The study was funded by the Dogs Trust with additional resources provided by Ranchi Municipal Council. All vaccines used in the project were donated by MSD Animal Health.

£10m award boosts bid to aid plight of tropical farmers

Efforts to tackle challenges faced by livestock farmers in developing countries have been boosted by a £10 million research award.

Researchers will use the funds from the Bill & Melinda Gates Foundation to investigate how genetic information can improve the health and productivity of farmed animals in tropical climates, which is a proven approach to climate change mitigation and adaptation

Institutions in Scotland and Africa where the researchers will be based are making additional contributions with a value of £10 million to support the initiative over the next five years.

The Centre for Tropical Livestock Genetics and Health is an alliance between The University of Edinburgh, Scotland's Rural College (SRUC) and the Africa-headquartered International Livestock Research Institute (ILRI).

Teams will investigate the genes that make some animals more resistant to diseases than others. They will also explore why certain breeds are able to thrive in hot and arid conditions.

Their aim is to develop technologies that will help farmers in developing countries to identify the best animals within a herd

from which to breed. The research will help Africa's farmers to improve the quality and productivity of their livestock.

Researchers will also use genetic techniques to identify and track emerging livestock diseases in tropical countries.

The University of Edinburgh's involvement is being led by The Roslin Institute, which receives strategic funding from the Biotechnology and Biological Sciences Research Council and is one of the UK's National Institutes of Biosciences.



This new joint centre will enable us to adapt, develop and transfer knowledge on improving livestock productivity to developing countries and greatly improve the lives of smallholder farmers in tropical environments.

**Professor David Hume
Director of The Roslin Institute**

Professor Andrew Peters, SRUC's Assistant Principal International, said: "We are delighted to be partners in this important initiative to improve the genetics of cattle and poultry in sub-Saharan Africa, contributing to the improvement of livelihoods of smallholder farmers. This is a unique and valuable collaboration between the four institutions all bringing their respective skills, expertise and resources to the table. We see it as only the beginning of what will grow into a major international initiative to improve the lot of poor farmers but also contributing importantly to reduction of greenhouse gas emissions by farm livestock."

Africa's involvement in the centre is led by ILRI, a member of CGIAR, a global scientific research-for-development partnership that advances agricultural research for a food-secure future.

Dr Jimmy Smith, Director General of ILRI, said: "The work of this new centre comes at an opportune time, when demand for milk, meat and eggs is rising fast in developing countries. The centre's focus on livestock genetics will help the world's one billion small-scale livestock keepers to meet that growing demand for animal-source foods, and thus to improve both their livelihoods and their food security."

Hi tech dog collars help vets monitor health improvements

Painkillers can help dogs with osteoarthritis to run about nearly in the same way as healthy dogs, a study of their movements has shown.

Vets used GPS technology attached to collars to track dogs with osteoarthritis and see how they responded to treatment. The collars monitor the dogs' every movement when outside and can give vets vital information about their physical performance.

This includes seeing how fast the dogs are moving, how quickly they speed up and slow down, and how far the animals travel during outdoor activities.

A team from the Dick Vet used the collars to monitor healthy dogs and dogs with arthritis while they were on walks.

They found that dogs with osteoarthritis could run as fast as healthy dogs but their acceleration and deceleration was significantly affected by their condition.

When the animals were treated with an anti-inflammatory painkiller (Carprofen), their performance was restored to a level comparable with healthy dogs for most of the measures taken.

The research was published today in the journal PLOS ONE and funded by the PetPlan Charitable Trust.

Dr Dylan Clements, lead researcher, said: "GPS collars have given us an insight into the levels of physical performance dog exhibit during their normal daily activities, and show us how much we can alter a dog's performance by keeping them on or off a lead, or playing with them.

"We found that they were a sensitive way for us to measure how well dogs recover from a disease that affects activity, such as osteoarthritis. We hope to be able to use the collars to understand more about how activity might contribute or help prevent diseases in the future"

The Dick Vet Equine Practice's Education Programme continues to expand!

Equine client education has taken on a variety of new forms in the last two years with a move away from the traditional evening talk towards discussion, audience participation and practical sessions.

Colic Evening saw 150 horse owners from across Edinburgh, the Lothians and further afield gather in the New Vet School Building to see the actual gastrointestinal tract of a horse in the new PM room viewing suite, get hands on with 'Rodney' the plastic horse to provide post-surgery intensive care and see innovative 3D modelling to demonstrate how the guts can move around during a bout of colic. The new approach has been very well received by the attendees with requests coming thick and fast for more and longer sessions!

The Dick Vet Equine Practice's education program achieved another first in organising a four week evening course for horse owners. The sessions covered preventative health care, first aid, biosecurity, yard policies, infection control, behaviour and finished with a live 'ask the expert' session. The participants enjoyed practicals including bandaging, clinical examinations and a memorable session in which our very patient teaching pony herd were covered in UV paint and everybody donned biosecurity suits to demonstrate the spread of disease.

The ponies were remarkably unmoved when their yard was plunged into darkness and the UV 'party' wand was unveiled! The course was described

as 'life-changing' and it was a proud moment for the staff team when a participant was able to ring in with a full set of clinical parameters during an actual emergency situation. The course was limited to 25 participants and massively oversubscribed so plans are being made to re-run the course in the future.

Our live demonstrations have proved extremely popular with our most recent event 'Lameness Live' attracting 200 horse owners to the Equine Hospital. Dr Labens showed the lameness locator in action on one of our teaching horses, Merlin, with Maeve Sheridan (ACPAT Physiotherapist) and Alastair Duff (remedial farrier) demonstrating a multi-disciplinary approach to get equine patients back to health as quickly as possible. Participants also had the opportunity to get hands on with the lower limb of the horse ably assisted by DVEP vets Chris Calder and Susan Armstrong.

Our partnership with local Riding for the Disabled groups has continued to strengthen and we recently ran a first aid day course with discussion groups and practical sessions for covering preventative health care and emergency first aid. We have also facilitated a link between the RDA and Edinburgh charity WithKidz to enable families to build healthy relationships through interactions with horses. The Dick Vet Equine Practice staff, RDA horses, ponies and volunteers have been extremely generous with their time to enable this partnership to be a success.



Tess Fordham counts the charitable donations

Demonstrations and client events are free to promote education for all, however voluntary charitable collections during the sessions have raised in the region of £500 for The Gambia Horse and Donkey Trust and £500 for our local Riding for the Disabled branches.

The equine client education programme is led by Equine Practice vet Tess Fordham and supported by the equine practice and hospital vets, nurses, grooms and technicians voluntarily giving their free time to provide such innovative client education.



The successful Horse Owner Course participants receive their certificates!

Opening of new isolation facilities for Farm Animals



The new isolation pens allow us to handle any farm animal species, from sheep to pedigree bulls.

The Farm Animal Hospital has opened its new isolation facilities.

Two isolation pens have been converted from existing buildings to handle any farm animal species, from sheep to pedigree bulls. This required a bit of creative thinking in order to accommodate the necessary gates and self-locking head yoke, which can then be partially dismantled to allow access from both sides for examination and potential surgical procedures.

Traditionally the Farm Animal Hospital at the Dick Vet has taken in animals from all over Scotland and the North of England for examination and further diagnostic tests, but these new facilities allow us to return animals to their farm of origin with minimal risk of disease transmission. Given the ongoing tightening of the Scottish BVD Eradication scheme regulations, having proper isolation facilities enables us to keep animals free from such infectious diseases. This allows us to see more complex referral cases including pedigree

high health status breeding animals, which can be treated in conjunction with colleagues in Equine, if necessary, for complex surgical procedures.

One of the first cases to use our Farm Animal isolation facilities was a two year old pedigree Charolais bull with an umbilical abscess. This abscess had dramatically increased in size in the previous month despite extensive antibiotic therapy, and was admitted for surgical drainage. The bull was given a high dose sacrococcygeal extradural nerve block, preventing the need for general anaesthesia. The abscess was drained, flushed and debrided, and the bull was able to return to the farm of origin within the week. Other cases that we have used the isolation facilities for include a Limousin bull with a recurrent corneal ulcer.

If you require any further information or wish to refer cases into the Farm Animal Hospital, please contact us through the Farm Animal Practice on 0131 445 4468 or farmanimalpractice@ed.ac.uk

New initiative supports the vets of tomorrow

Throughout our pets' lives we rely on a vet's knowledge and expertise to keep our animals healthy and comfortable.

Here at the Dick Vet, we endeavour to produce highly-skilled, compassionate professionals able to provide the best possible quality of care for generations of animals to come.

The Dick Vet Educational Memorial Programme is a new initiative developed to support our teaching and research activities. This programme allows our clients to donate their pet's bodies in support of our key aims of training future vets and advancing veterinary science through clinical research.

Taking part in the Educational Memorial Programme (EMP) is an important contribution to the animals and vets of the future, both through research and education – and a way of ensuring that our animals continue to receive high-quality veterinary care.



The Educational Memorial Programme is very important to our anatomy and pathology teaching programmes and for our clinical research projects which aim to develop better treatments for pets. Through this programme our students gain invaluable learning and research opportunities, which allows us to make sure the next generation of vets have the skills required to provide excellent care for future pets.

Dr Richard Mellanby
Head of Companion Animal Sciences

You can find out more about the Programme by visiting the website at www.ed.ac.uk/vet/EMP or by emailing the co-ordinators on DickVetEMP@ed.ac.uk

White Coat Ceremony

Our new vet students were formally welcomed to the start of their veterinary careers at our White Coat Ceremony.

Head of School, Professor David Argyle, introduced the proceedings and gave an introduction to life at the Dick Vet.

Resident historians, Dr Alastair Macdonald and Colin Warwick, then gave an overview on the School's history following which the formal presentations of the white coats were made. A photographer was on hand to capture the event and fun individual and group shots were taken as a memento of this significant day as they joined the Dick Vet Family.



Our students were welcomed as they formally became members of the Dick Vet family.

Vet school students praised for role in mentoring scheme

Dick Vet students are helping their first year counterparts to study more effectively through.

The project recently received an Impact Award for Best Peer Assisted Learning Scheme (PALs) at a student-led event on campus.

The VetPALs initiative encourages students who have been at university for more than a year to pass on study tips to first years.

They cover topics such as how to take notes in lectures, write essays and lab book reports, revision techniques and how to prepare for exams.

Ten one-hour sessions are held throughout the academic year, led by a team of trained VetPAL leaders, who are selected from senior students.

Dr Jessie Paterson, Lecturer in Student Learning at the Royal (Dick) School of Veterinary Studies, said: "We're delighted that our students have been recognised for their efforts to help each other integrate and succeed in their veterinary education."

Student success at international Horse Society competition

The Dick Vet Horse Society's annual international competition saw 10 teams take part in dressage and jumping events at Tannoch Stables in Cumbernauld.

The event involved two teams from Norway, two from Sweden, two from Cambridge, as well as teams from the Royal Veterinary College, Dublin, Poland and of course, the Dick Vet.

Edinburgh came 3rd overall as a team, with Norway and Sweden coming first and second. One of our riders came first individually in the dressage and second individually overall. A second team member came 4th overall, out of 40 riders.

The day culminated with a dinner and ceilidh at the Three Sister's pub in Edinburgh.

01. All 40 riders from Norway, Poland, Sweden, Cambridge, Dublin, RVC and Edinburgh Vet Schools, as well as some volunteers and spectators (Sweden brought 7 spectators along to cheer on their teams!).

02. The Edinburgh Team (3rd place). From Left to Right: Missy Ackley, Catherine Daniel, Ellie Buffet, Kathryn Douglass.

03 The Edinburgh Team again, with one of the wonderful Dressage ponies, Niko.



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More Sporting Success...

Our sporting students celebrated their victory in Dick Day, winning nine out of ten events against the Glasgow veterinary students.

Glasgow and Edinburgh veterinary students compete every year in an annual sports competition dubbed 'Dick Day'. This year the event was held in Edinburgh with the home team victorious in nine out of ten sports and winning the Dick Day Trophy!

Sports include rugby, lacrosse, equestrian, badminton and ultimate frisbee!

Campus Hub and Roslin Innovation Centre

Building work is underway on a £32 million Campus Hub and Roslin Innovation Centre for the Easter Bush Campus.

The Innovation Centre will provide 41,000 square feet of dedicated space over two floors (middle and top), for young and existing growing businesses including start-ups, spin-ins and university spin-outs, as well as for multi-national industrial collaborators working with The Roslin Institute, the Dick Vet and Scotland's Rural College (SRUC).

In addition, a Campus Hub for students and staff, as well as a space for public outreach activities will be provided on the ground floor.

At least 70 per cent of researchers on the Easter Bush Campus have at least one link with a company, highlighting an already strong collaborative culture with industry. The impact of research at Easter Bush – such as the practical benefits that it brings to society – also scored particularly highly in the most recent Research Excellence Framework (REF) assessment of Higher Educational Institutions. The University of Edinburgh's joint submission with Scotland's Rural College to the Agriculture, Food and Veterinary Science panel was ranked 1st out of 29 submissions

as analysed in the Research measure of "Research Power".

The new Innovation Centre will further foster strategic partnerships with both local, national and international businesses that have a focus on animal and veterinary sciences and agritech. It will have a strong emphasis on "One Health", with improvements in animal health and welfare that can benefit human health and vice-versa.

The University Chancellor marked the site of the development, prior to building work beginning, by planting a tree during a visit to the University in January 2015.

The Campus Hub and Roslin Innovation Centre, which has received funding from the Biotechnology and Biological Sciences Research Council, the Scottish Government and The University of Edinburgh, is scheduled to open in the summer of 2017. It will provide office/write up space for 380 scientists together with over 285 laboratory workstations available for undertaking strategic, commercial and collaborative research.

John Mackenzie, Chief Executive of the Roslin Innovation Centre, said: "Easter Bush already has the highest concentration of animal sciences

- 01. An Architect's impression of the completed building from above.
- 02. The building will have space for young and growing businesses.
- 03. On completion, the building will be a central hub for the Campus.



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in Europe, and this development will further cement its status as a world-leading environment for animal sciences, with the aim of improving animal, as well as human, health and welfare.

“The creation of the Innovation Centre will also have a significant economic impact, both in terms of creating employment with local high-skilled jobs, as well as providing rental and collaborative research income. In addition its social impact will include furthering the discussion on animal welfare and research, and engaging with the public about this important field.”

On the ground floor of the Campus Hub will include a gym, shop and a public outreach centre. Public outreach will build on current public engagement activities, such as

participation in the Midlothian Science Festival and school visits, but with a dedicated space that can also be used for workshops and seminars.

The top two floors, allocated for business innovation, have been designed with flexibility in mind. They consist of open lab and office space, which can be adapted and portioned to suit the size of businesses wishing to locate there – from businesses with a handful of staff to dozens of staff. Tenants are already being lined up for the building.

Architects have also taken into consideration the surrounding rural area with regards to the building design. This has included integrated “living walls” both inside and outside the building. This will incorporate an irrigation system, which enables plants and foliage to grow up the walls.

“

Easter Bush already has the highest concentration of animal sciences in Europe, and this development will further cement its status as a world-leading environment for animal sciences, with the aim of improving animal, as well as human, health and welfare.

John Mackenzie
Chief Executive
Roslin Innovation Centre

£11m Energy Centre for Easter Bush Campus



An £11 million pound scheme is to enable the Easter Bush Campus to produce its own low-carbon energy.

The new Combined Heat and Power system will provide electricity for The Roslin Institute and The Royal (Dick) School of Veterinary Studies.

Edinburgh is one of the UK’s leaders in Combined Heat and Power (CHP) technology, which uses fuel efficiently to produce electricity and heat at the same time.

As one of the UK’s biggest CHP producers, the University has already invested more than £20 million in low-carbon energy to provide the majority of its campuses’ electricity needs. This has reduced CO₂ emissions by almost 10,000 tonnes annually.

The Easter Bush Energy Centre will reduce emissions by an additional 2000 tonnes annually. It is due to be completed in Spring 2017.

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I’m very pleased to see this further investment by the University in Scotland’s transition to a more sustainable energy system. The University has been a leader in low carbon energy, in large part because of the dedication and expertise of our Estates staff. With the added support of our Easter Bush colleagues, this is another important milestone towards low-carbon, cost-effective energy for the University.

Dave Gorman
Director of Social Responsibility
and Sustainability at The University
of Edinburgh

New Equine Diagnostic, Surgical and Clinical Care Facility

A £3.7 million Equine Diagnostic, Surgical and Critical Care Unit is being built at the Dick Vet, to enhance both learning for students and treatment for horses.



Architect's impression of the new equine unit

The new facility will replace the current equine, surgery, radiography and intensive care block, which was built around 30 years ago and now has a limited lifespan of between three and six years.

John Keen, Head of Equine Hospital and Practice, said: "As a referral hospital we are seeing an increase in emergency caseloads and an increased need for advanced diagnostics.

UK equine veterinarians and horse owners will benefit by having gold standard referral and opinion services at Easter Bush. The new unit will also be immensely beneficial in providing teaching facilities for our future vets."

The unit will aid equine welfare through innovations in research, clinical diagnosis and treatment. It will consist of four integrated parts – a diagnostics unit and triage area, surgery, a critical care and support space.

The diagnostics and triage area will be located next to surgical and critical care areas. This will prevent horses from being unnecessarily moved over the site. The specialist diagnostic and triage area will also play an important role in evaluating emergency cases, such as

horses with colic, severe lameness and synovial sepsis.

The surgical area will consist of two state-of-the-art theatres with induction and recovery boxes, plus a new standing surgery suite. The standing surgery suite, which can be used for standing fracture repair and laparoscopy, will reduce the risk of complications associated with general anaesthesia and, as a consequence, lead to faster recovery times.



This will be such a phenomenal addition to the continuously growing Easter Bush Campus. The Dick Vet Equine Hospital is already a centre of excellence for horses in the UK, so this fantastic development with state-of-the-art facilities will allow us to excel at the forefront of the equine veterinary field.

Amanda Wimms
Final-year student at the Dick Vet

An onsite laboratory and 24-hour video monitoring will be incorporated into the critical care unit. The unit will have six dedicated boxes for horses: five for adult horses and one specialised stall for neonatal foals, allowing the mare and foal to remain together.

In addition, a support space will provide an area for on-site teaching in surgery, critical care and anaesthesia as well as a place to counsel and support clients.

A fundraising campaign has helped to make the unit a reality, with support having been received from Alumni, Friends of the Dick Vet and Trusts and Foundations. We would like to thank everyone who has generously contributed to the appeal by donating or fundraising. Supporters will have the chance to be acknowledged on the new building's donor board.

Building work on the new facility is now underway, and is due to complete in 2017.

If you would like to find out more, or discuss other ways in which your support can help the School please contact Sandra Chilton, R(D)SVS Development Officer:
sandra.chilton@ed.ac.uk

A View from the Outside

Perspective: Professor Brian Perry recently presented a seminar at the Moredun Institute entitled “Reaching for livestock research impacts in the developing world; a continuing quest for enlightenment”. Here he comments on the value of independent evaluations to improve the effectiveness of public funding investments in agriculture and health programmes in developing countries.

The older I get, the more aware I become of the inadequacies of development aid in improving agriculture and health in the developing world. I come across many contributions by colleagues to research on controlling disease x or disease y, and hear favourably about record levels of economic growth in many African and Asian countries. But at the same time I see examples of projects which inadequately respond to new market opportunities for animal source foods offered by the growing populations, urbanisation, more refined consumer demands and increasing affluence. We need greater impact from our research and development. This has led me to enrol in new discipline to address this frustration: independent evaluation. Over my 46 year career since graduating at the Dick Vet I have covered much ground, both geographically and scientifically; a vet in general practice, an epidemiologist, a professor, a researcher and a development scientist; but the leading of ten independent evaluations in different corners of the world during last five years has brought a new sense of understanding and public responsibility I was unfamiliar with.

These evaluations have included assessment of the global responses by the Food and Agriculture Organisation (FAO) of the United Nations (UN) to highly pathogenic avian influenza, of the response by FAO to foot-and-mouth disease control in the Andean region of South America, of the investment by the European Union in the resuscitation of Swaziland’s national agriculture programme, of the investment by various donors into the UN’s agricultural programmes in Ethiopia, and of the investment of the Agriculture and Fisheries Development Fund on research and development in Oman. How well were these funds spent, in terms of the five recognised criteria of relevance, effectiveness, efficiency, impact and sustainability, and what have we learnt from these evaluations?

Some common messages emerge. The evaluations used the five criteria to assess past performance based on available evidence, but in all cases provided forward looking

analyses of how public investments can be improved in the future. The importance of good programme planning regularly emerges, with clear milestones and measurable indicators of achievement. Leadership and communications skills often play a much more important role than technical competencies. Independent evaluations thus offer a critical mechanism for achieving change, both by the sponsor and by the implementing country or agency, with the ultimate goal of improving the impact on beneficiaries, whether they are smallholder livestock keepers, service providers, animal source food consumers or national economies.

- 01. Brian facilitates a stakeholder meeting during an evaluation in Maasailand, Kenya.
- 02. Brian discusses the benefits from health programmes for Llamas in highland Bolivia.
- 03. Brian discusses grass root benefits from FAO’s programmes in rural Ethiopia.



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Class of 1965 Reunion

In glorious late September sunshine, eleven Dick Vet Graduates plus partners met in Edinburgh to celebrate 50 years since embarking on their veterinary careers.

On Friday evening, Professor David Argyle welcomed the group at an early evening reception in The Salisbury Hotel within the extended Pollock Halls of Residence complex.

Saturday began with a tour of the Veterinary Teaching Building, which the whole group agreed has a vibrant, welcoming, encouraging and positive ambiance. After mid-morning coffee, the group toured the current Equine facilities with Dr John Keen who outlined the exciting plans for the Equine Diagnostic, Surgical and Critical Care Unit.

Lunch at the old Dick Vet building in Summerhall Square revived memories further and brought the Reunion to a close.



“More Sherlock Holmes than James Herriot”

Alumnus Dr Roger Windsor has written a book chronicling his memories from student life at the Dick Vet right through his career which took him to many parts of the world.

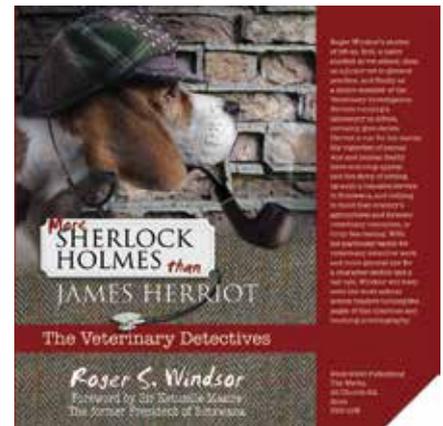
After spending some time in veterinary practice in the UK, Roger went to work in Kenya and soon became Head of the Veterinary Diagnosis Laboratory there. Back in the UK a spell at Norwich Veterinary Investigation Centre made Roger realise that he had found his niche as a ‘vet detective’, a career he went on to pursue with great success in Kenya, Argentina and Botswana. His memoirs “More Sherlock Holmes than James Herriot: The Veterinary Detectives”, is his story up to that point, although he later also worked in Peru, and was awarded an MBE for his work there.

Explaining the genesis of the book, Roger says:

“I have always been a great fan of James Herriot and I believe that he has done a great job for the reputation of the veterinary profession, however, I felt that his stories concentrated more on the art of veterinary medicine than on the science. Having spent the greater part of my professional life working in veterinary diagnostic laboratories, I thought that my story might show that there is more to veterinary medicine than clinical prowess and compassion.

“I have had a very varied career and, among other things, have set up veterinary laboratories in four continents: Europe, Africa, South America and Asia.

“I hope that readers find that my vignettes of animal woe and human frailty have enduring appeal, and find the story of



setting up such a valuable service in Botswana, and helping to build that country's agricultural and forensic veterinary resources, engaging.”

Roger's Book is available to buy on waterstones.com; amazon.com and at other outlets.



Class of 1990 Reunion

The Class of 1990 reconvened on Saturday 10th October to view the new facilities at Easter Bush.

The group was led by Professor Danielle Gunn-Moore – a graduate from the same year – and were treated to a tour of the Teaching Building followed by a short overview of the Hospital for Small Animals. All agreed there had been much change in the intervening years and that the School was well placed to further reinforce its strong reputation internationally.

A Blue Plaque for John Barlow

Quaker John Barlow (1815-1856) was William Dick's Assistant Professor of Anatomy and Physiology from his graduation in 1844 until his tragically early death in 1856.

He introduced the microscope to veterinary education, and became renowned as an astute scientist who was much esteemed by his peers; William T. Gairdner, James Y. Simpson, Joseph Lister.

The Veterinary Record wrote, 'It was said that Professor Dick, who had never been seen to shed a tear, wept at Mr. Barlow's funeral like a child.'

In September 2015 a blue plaque was unveiled at 1 Pilrig Street, Edinburgh in honour of John Barlow, who was an early occupant of the house (1851-1856).

At the unveiling were; Antony R. Barlow and Nicholas P. Barlow (great grandsons), the Lord Provost of Edinburgh the Right Honourable Donald Wilson (who unveiled the plaque), John and Maureen Campbell (the current house owners), Prof Brendan Corcoran and other representatives of the Dick Vet, members of the Edinburgh Quaker Meeting and staff of Historic Environment Scotland.

John Barlow was buried in the Quakers' Cemetery, the Pleasance, Edinburgh. As his gravestone is barely readable, Antony Barlow arranged for another plaque to be mounted above the stone. It was fixed by Estates and Buildings of the University of Edinburgh who supervise the property.



The unveiling of the plaque to John Barlow: from left to right, The Lord Provost of Edinburgh the Rt Hon Donald Wilson, Antony R. Barlow and his brother Nicholas P. Barlow and Prof Brendan Corcoran. Photograph by Norrie Russell.

Dates for your diary

The Dick Vet has been running successful monthly continuing professional development (CPD) evenings for referring practitioners.

This year's free Clinical Club CPD evenings have to date included diagnosis and management on canine liver disorders, an update on renal disorders, canine osteosarcoma, treatment for hyperthyroidism, and diabetic management.

Upcoming events, held on Wednesdays, are as follows:

July 6th 2016:

Dr Tim Nuttall, Head of Dermatology
Protecting your practice and patients - getting to grips with infection control and responsible antibiotic use

August 3rd 2016:

Prof Brendan Corcoran,
Chair of Veterinary
Cardiopulmonary Medicine
Investigating respiratory diseases in cats and dogs

September 7th 2016:

Dr Dylan Clements, Senior Lecturer in Small Animal Orthopaedics
What's new in plates and screws?

October 5th 2016:

Prof Danielle Gunn-Moore,
Personal Chair in Feline Medicine
Considering elderly cats

November 2nd 2016:

Dr Pauline Jamieson,
Senior Lecturer in
Small Animal Medicine
Update on disorders of the adrenal cortex

A buffet is provided from 7pm and talks start at 7.30pm.

More information can be found at www.ed.ac.uk/vet/bookclinicalclub where bookings can be made for the events.

How to contact us

We depend on your support to maintain our high standards and fund new developments. You can help us to deliver the future of veterinary medicine. Here's how to contact us:

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