AVS CONTACTS

President, Eleanor Robertson
avspresident@gmail.com
Senior Vice-President, Hannah Mason
avsseniorvicepresident@gmail.com
Junior Vice-President, Dave Charles
avsjuniorvicepresident@gmail.com
Secretary, Seamus McSorley
avscommittee@gmail.com
Treasurer, Katie Burden
avstreasurer@gmail.com
Welfare, Lucy Yarnold
welfarerep@gmail.com
IVSA President, Rosie Herrington
presidentivsauk@gmail.com
JAVS Editor, Seth Kennard
javseditor@gmail.com
Web Editor, Iona Freeman
avswebeditor@gmail.com
IVSA Exchange Officer: Tavishi Pandya
eoivsauk@gmail.com
IVSA Promotions: Lara Muttiah
ivsaukwebmaster@gmail.com
IVSA Public Health: Radha Varadharajan
vphoivsauk@gmail.com

BRISTOL

Dave Charles, Bristol Senior:
bristolsenior@gmail.com
Hannah Fitzsimmonds, Bristol Junior:
bristoljunior@gmail.com

CAMBRIDGE

Lauren Mort, Cambridge Senior:
cambridgesenior@gmail.com
Katie Roberts, Cambridge Junior:
cambridgejunior1@gmail.com

DUBLIN

Grace NíhEalaí, Dublin Senior:
dublinsenior1@gmail.com
Aine Mulcahy, Dublin Junior:
dublinjunior1@gmail.com

EDINBURGH

James McKeown, Edinburgh Senior:
edinburghsenior@gmail.com
Angus Lane, Edinburgh Junior:
edinburghjunior@gmail.com

GLASGOW

John Hamilton, Glasgow Senior:
glasgowsenior@gmail.com
Robbie Henderson, Glasgow Junior:
glasgowjunior1@gmail.com

LIVERPOOL

Anna Gregory, Liverpool Senior:
liverpoolsenior@gmail.com
Becca Grace, Liverpool Junior:
liverpooljunior1@gmail.com

LONDON

Jess Higgins, London Senior:
rvcsenior1@gmail.com
Carla Bleasdale, London Junior:
rvcjunior1@gmail.com

NOTTINGHAM

Tom McGregor, Nottingham Senior:
nottinghamsenior@gmail.com
Izzie Arthur, Nottingham Junior:
nottinghamjunior1@gmail.com

SURREY

Antonia Leech, Surrey Senior:
surreysenior@gmail.com

More than just vets – we're experts

By Seth Kennard, *JAVS* Editor

Welcome to the autumn 2017 edition of *JAVS*, the *Journal of the Association of Veterinary Students*. In this issue you'll find stories from students who have been busy seeing the world, learning useful skills and meeting new people. You'll also find articles covering political issues, student events and opinions.

A while ago, a prominent politician stated that the public were getting tired of experts, tired of warnings and tired of predictions. Since then the term 'expert' has been under examination – who do we trust and who do we listen to? Like it or not, we now live in an era of fake news, or misinformation and counter-advice. People are more likely to look something up online than speak to a real person, more influenced by a photo stream than by medical advice, and more swayed by trends than by warnings.

We're all training to be experts and when we graduate we will have become, without doubt, experts. Experts on animal welfare, on food safety and production, on zoonotic diseases and on a whole plethora of subjects. When you're a student you may not feel like you're an expert in training, as many days it can feel like you're drowning in knowledge and forgetting everything you're taught. When you're surrounded by other students, it can feel like you're the least competent in the room, or that you're all equally incompetent.

Editor Seth speaking to members of the public at the Royal Institution

However, going outside the veterinary bubble you will be impressed at how much you've picked up. Meeting clients on EMS, speaking to family over the holidays, or just hearing conversations on the train, you will realise how little people know about animals. A survey conducted last year by the group Linking Environment to Farming (LEAF) found that 20% of those surveyed didn't know eggs came from chickens, and that 26% were unsure if milk came from dairy or beef cows.

A few weeks ago I was lucky enough to show some of my research project to members of the public at an event held jointly between the RVC and the Royal Institution. At first I assumed I would spend most of the evening boring people (and myself) with details about bovine viral diarrhoea virus, using tennis balls, Velcro and sticky notes to explain how an ELISA works. Instead I was left delightfully exhausted by countless in-depth discussions about farm biosecurity, farming economics, disease control and research. You'd be forgiven for thinking that these conversations were with vet students, but this event was designed to get members of the public thinking about veterinary science, and, in particular, pathology; I spoke to art and history students, to a retired postman and to many more besides.

We have a privileged role in society and with it comes a responsibility to share what we know on any subject people care to listen to because by doing so we can improve the lives of many.

Time to end the taboo

Ceri Chick (RVC Student Union Equality and Diversity Officer)

For many people, talking about mental health is incredibly difficult. We seem to think it's a taboo, and that seeking help is a weakness. This especially seems to be the case in the veterinary world. We have the mindset that we must work through our problems ourselves, and work ourselves into the ground. This is exactly how I used think.

When my GP diagnosed me with depression and anxiety at 17, I was terrified to talk about it. Like so many other people in a similar situation, mental health was something not understood by most of my family. My mum didn't know what to do. She only wanted the best for me and she was worried how others would perceive me. I felt completely hopeless, with no-one to understand what I was going through. Even my own mind was telling me I was overreacting and needed to get a grip.

I refused to take medication because of the stigma attached to it. My parents tried to help me by changing my diet, getting me out of the house, and even changing to special daylight light bulbs! Sadly this didn't work, but for their sake I pretended it did and that I was fine. That, in retrospect, was the wrong decision.

When I was 19 and at university, with my mental health reaching a plateau of nothingness, I finally broke down in front of my parents. My dad made a doctor's appointment for me straight away, and told me that I was going to get help because he didn't want to lose me to depression. I can't thank him enough for that.

Through the Disabled Students Allowance I was given a mental health mentor. I was pretty sceptical: I'd tried counselling at the start of the year and it didn't work for me, so I wasn't exactly expecting much.

However, mentoring was like a conversation. My mentor would constantly remind me, in subtle ways, that what I was saying mattered. We worked through the things that bothered me and eventually found the source of some long-term problems, just through having a chat. My sessions didn't in any way feel formal, and I didn't feel forced to talk about my problems. If I just wanted to talk about my cat, that was fine too! (Picture of said kitty included in this article: I like my cat!)

After just a few sessions I became much more confident. I was finally able to think through my problems in a logical way, so that I could work through them without going into a panicky spiral. I could see my problems for what they really were – solvable.

Thanks to the combination of antidepressants and mentoring, I finally feel like a person again. I'm ready to be me, without having to worry. I can't thank my mentor enough for what she's done for me. She gave me the strength to be able to help myself, and that's something that I could never do in my previous 20 years.

My sessions did not feel at all formal – if I just wanted to talk about my cat, that was fine

Having a mental illness is one of the hardest things anyone can go through. It's not a sign of weakness to get help. It takes bravery and strength.

If you're suffering yourself, I urge you to get help. Find what works for you; I can definitely recommend mentoring! We can change the way we see mental health, we are all strong enough. I believe in us.

Six weeks of summer at the Cornell Summer Dairy Institute

Henry Miller (6th Year, Cambridge)

If you're anything like me, no doubt you've seen dozens of pictures of fellow vet students enjoying themselves in exotic locations abroad and counting it as EMS. Surely it's a shame not to take advantage of the amazing travel opportunities available, especially when we're all suffering from a lack of full student holidays? Rolling EMS and foreign adventures into one seems a 'no brainer'!

About half the time at the summer school is spent putting theory into practice

It can be tricky finding the perfect EMS experience but, to my mind, the Cornell Summer Dairy Institute (SDI) ticked pretty much all the boxes. The basic premise is to take 25 vet students from around the world and fast track them through production medicine, with six weeks of intensive dairy-focused seminars, practical teaching sessions and industry visits. Chuck in a frat house with a professional chef, bucket loads of superb ice cream on campus, spectacular scenery (geographical and social) in the buzzing university city of Ithaca, and tons of American hospitality, then you can't fail to have fun.

There's a broad theme each week, such as nutrition, housing, fertility or milk quality, and for every topic the lecturers come from across North America to teach by day and share a few drinks by night. Despite the very formal jam-packed timetable there is plenty of flexibility and time for lively discussion and questions. Roughly half the time is spent in the field or on the Cornell University dairy farm putting theory into practice. Assessing farm facilities, testing milking machines, foot trimming, ultrasound pregnancy diagnosis and obstetrics all feature. After learning the basics, the group splits into teams of five and spends three days on a case farm, culminating in producing a comprehensive herd health and productivity review.

Probably my favourite aspect of the whole trip was meeting so many genuine people from a huge spectrum of backgrounds but all with a shared interest in farm animal (particularly dairy) medicine. Six countries were represented in the student cohort but there was an immediate sense of rapport from day 1.

There was ample free time in the evenings and weekends for exploring some of what Ithaca and the surrounding area had to offer. Niagara Falls and the Saratoga Horse Races made for brilliant weekend trips but it wasn't at all necessary to go very far to have fun. Ithaca provides watersports, beautiful gorges, live music and bustling bars and restaurants, plus everyone from Cornell (including the professors) kept us entertained with BBQs and campfires to make the most of the warm summer evenings. It's thanks to all these 'extra' features that I think the people I met will stay with me just as much as some of the complex skills I learned. It's not just at AVS Sports Weekend and Congress that you can build bridges between vet schools!

Also, you do not have to be from a dairy background to attend. Vet student specialisation in the USA is far advanced beyond schools in the UK (I don't know of anywhere here with a Dairy Club or competitive pregnancy diagnosing) so it can seem daunting when you haven't got years of farming/farm vetting experience. However, as long as you bring enthusiasm to the table, everyone is more than happy to take the time to teach you at your own pace. Only a couple of

Participants in the 2017 Cornell Summer Dairy Institute

my questions prompted a chuckle before someone brought me up to speed. And it's not just the professionals who teach. I can safely say I learnt just as much from the other students on the course as I did during seminars from the international dairy experts.

A quick word on expenses as we all have to work on a budget . . . I paid US $2500 for the course, which included bed and board. For six weeks in the USA I think this is excellent value. It's not a small sum of money, but there is a strong precedent for university and BVA travel grants to contribute to covering the cost. Moreover, any American Veterinary Medical Association-accredited university student can apply for a substantial scholarship from the American Association of Bovine Practitioners, so funding is available if you look for it.

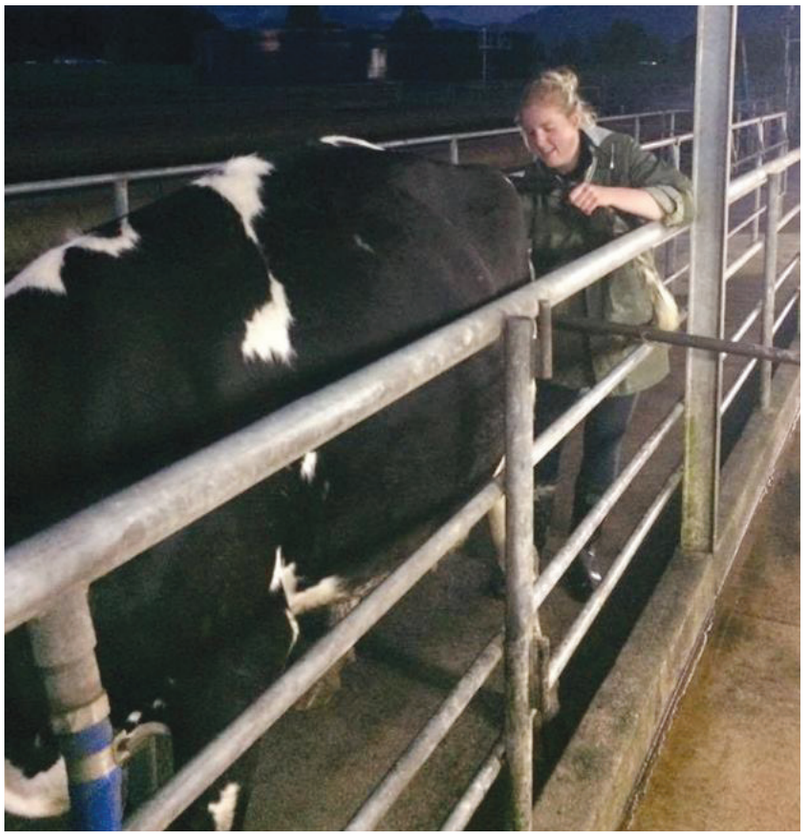
In summary, I wholeheartedly recommend the SDI. While I didn't see a single elephant, gorilla or tiger in New York State, the deer, skunks and groundhogs of Ithaca are on every street corner. Although I didn't spend a single day 'seeing practice' in the USA, I hope that what I did learn will stand me in just as good stead for a career in farm animal medicine, and who doesn't want a break from typical EMS days of consults and car journeys once in a while?

Check out the SDI website (https://www2.vet.cornell.edu/education/other-educational-opportunities/summer-dairy-institute) if you're interested and, whatever you do, make the most of any extended holiday blocks in your timetable for something a little different.

A day in the life of a Kiwi vet

By Carla Bleasdale (RVC Junior Rep)

This summer I was fortunate to spend three months in New Zealand, completing a calving season on the North Island as well as spending three-and-a-half weeks travelling around a truly beautiful country. During the calving season I spent a couple of weeks with Ian Scott – a self-employed large animal vet with 35 farmers and their 16,000 cows on his books. He also has his own deer and dairy farm in South Waikato. A 'typical' day with Ian ran something like this . . .



6.45 AM I wake up before my alarm goes off. It's a somewhat later start than I have been used to on the farm, where I've been getting up for the 6 am milking.

7 AM Breakfast – porridge and a coffee; I'll be needing all the caffeine and calories I can get today.

7:15 AM A call comes in from one of the farm workers: there's a problem. A calf has got its eyelid caught on some wire in the sheds. I'm sent to the farm to help free the calf.

7:20 AM I take the truck down to the farm to find they have managed to unhook the wire from the calf's eyelid. It looks worse than it is, but I cover the calf with some antibiotics. She hasn't taken any real harm and is already on the feeder drinking. I help feed the last shed of calves.

7.50 AM Arrive back at the house and make a pit stop Lewis Hamilton would be proud of, downing my reheated coffee.

8.00 AM Back on the road, but before joining Ian I check on a dry cow that was down with milk fever last night. She's fine now and just needs a quick cuddle this morning; a good start.

8:45 AM First call is to a cow showing neurological signs. She's turning in circles and we suspect she has *Listeria*. She is treated with very high doses of penicillin.

9:30 AM Next call, a Friesian cross heifer having difficulty calving. It's a uterine torsion. Ian tries to untwist the torsion using his arms and tries to get the calf to start swinging. If you can get enough momentum, it's possible to swing the calf the whole way around, opening the birth canal. However, with a full 360-degree twist that's easier said than done. We opt for rolling the cow. Once she's sedated we try to untwist the torsion by swinging the cow around her own uterus. Then Ian reverses the effects of the sedative and the cow is left for a while to see how things progress.

10:30 AM On to the next call, another calving. The calf's head is stuck in the pelvis, on its way out. I put my arm in to see what I can feel. The head is bent way down to the left and the neck is almost bent in half. It's a matter of having long arms to reach in, find the head, get it in position and then pull the calf. Too tricky for me but Ian the expert has a live calf out in less than five minutes.

11 AM In the truck on the way to the next call Ian tells me of how he grew up on a dairy farm and chose to invest in land and his farm rather than becoming a partner in a practice. He runs a high-input, high-production operation integrating 1400 deer and 340 in-milk cows. He tells me of the importance of a business-like mindset in the veterinary industry and how vital these skills are.

11:15 AM As we are passing, we call in on a client who was having trouble with calf scours; all is well.

12:00 PM Back to check on the cow with the uterine torsion from earlier. The cervix has not dilated any further. Ian thinks that the uterus may have been twisted for some time and possibly there is scar tissue that is not allowing the cervix to dilate enough and so the calf cannot be born. The farmer decides to cull the cow rather than operate. All heifers on this farm were put to easy-calving bulls, which meant she was in calf with a 'bobby calf' that was of very little value. A bobby is an unweaned, at least four days old, calf that is killed for human or pet food consumption.

The farmer's decision was based on the relatively low perceived success rate for getting caesarean cows back into calf at the following mating – if she does not get in calf then her value is very limited.

In the New Zealand system all the cows will be dried off at the same time so any cow that is served late will have a shorter lactation. Late calving cows will also have less time to begin cycling again before the mating season begins. New Zealand farmers have to cope with millions of calves being born in a short space of time due to their block calving system.

1 PM On the road again. I asked why there aren't more New Zealand dairy calves being raised for beef. Ian explains that some smaller breeds, such as Jerseys, are not wanted by beef rearers because they will not give the same returns compared to beef breeds. Also, with increasingly frequent droughts, grass shouldn't be wasted on low-value beef. Another interesting comparison was the reluctance of New Zealand farmers to opt for caesarean section surgery, with not one performed during my two weeks with Ian. This opened an interesting discussion regarding the use of big beef breed bulls on dairy cattle in the UK and the welfare of cow and calf.

1:45 PM Back home for a spot of lunch.

2 PM Vet calls are done for now, so we move on to Ian's own stock. Ian knocks down some lame stags in order to treat them. The deer shed has a platform which allows him to sedate the deer from above. Once down, we go in to trim the feet. Here I appreciate just how big these animals are and how amazingly intelligent. They're always listening and watching.

4 PM One more call comes in and it's an hour's drive away. Another calving. The calf is breech with only the one foot presenting. I had a go at finding the other foot and was able to get it up into the birth canal, but the calf's hips were too wide to get through. The calf was dead, and had been for quite some time. This called for a fetotomy. Using a cutting wire Ian split the pelvis of the calf in half. With one leg and hip removed, there was enough room to pull the rest of the calf out. After we get cleaned up and the tools disinfected, we climb back in the truck and head home.

7:30 PM Home. Ian goes out to feed grain to the deer in the paddocks. I'm in charge of cooking dinner – pork steaks – or at least that was the plan until the cat helped herself!

9:30 PM Bed. Ready for another knackering but exciting day tomorrow.

Getting a taste for research on the Cornell Leadership Program

Luca Fortuna (5th Year, RVC)

This summer I took a break from rotations to take part in the Cornell Leadership Program, because who wouldn't want to be paid to fly to the USA and bolster their CV? It was a fantastic experience, one that I highly recommend to any other vet students considering a career in research, or who fancy trying something new for a summer. Here is a review of my experiences.

What is the Cornell Leadership Program?

Every summer Cornell University runs a research-oriented programme combining a supervised laboratory research assignment with student-directed learning through modules, workshops and group discussions. The activities aim to encourage responsible leadership, critical thinking and teamworking. The programme also provides career guidance and highlights training opportunities for its graduates to encourage them to develop as independent scientists and public health professionals.

The serious stuff . . .

The leadership module: Our first major set of programme activities involved debates on the nature and necessity of leadership, discussions about what makes an effective leader and critical analyses of the leadership traits of characters from A Few Good Men ('You can't handle the truth!'). The highlight of this module was a role-playing exercise: I was asked to be a famous palaeontologist who had to explain the evolution of a species of three-legged rabbit I had discovered, together with a plan to protect it from an emerging disease being spread to the species by a dastardly rabbit-hating politician.

The emerging disease module: A fun day where we were divided into groups and had to present on an assigned disease. We were discouraged from presenting in a standard lecture format and instead urged to come up with new and interactive presentation methods. Every group presented in a completely different manner, with each talk being interactive and engaging the audience in different ways. If public health was taught with lightsabers in the same manner as we were taught about antimicrobial resistance that day, we would all be epidemiologists. The discussions that followed with the facilitators on the topic of emerging diseases were very insightful, and gave us a better understanding of some of the new threats to human and animal health.

Washington DC: During the programme, we went to the National Veterinary Scholars' Symposium in Washington DC where vet students on summer research programmes across the USA had gathered. Here we got a chance to see the National Institutes of Health, one of the foremost research centres in the world. We had talks from several researchers at the cutting edge of their fields, talks on the importance of getting vets into research, and the chance to see posters of hundreds of other students' work and discuss their research.

The career development module: We had talks from guest speakers, many of whom were past graduates from the programme, on career development and research training. It was interesting to learn about their different career paths and hear an insight into what life is like in various careers in industry and academia. Lots of advice was given on pursuing our individual career aspirations, and we discussed important topics like CVs and interviews, work-life balance and networking.

The science: We each undertook a research project in one of the labs at Cornell. I spent the sum-

Relaxing among the Thousand Islands in the St Lawrence River between the USA and Canada

mer in the lab of Dr Weiss, where I helped with investigating the sensitivity to chemotherapy of a line of embryonal carcinoma cells, a kind of cancer stem cell found in some testicular germ cell tumours. These cancers are particularly sensitive to chemotherapy and understanding why could prove important in developing more effective treatments for other cancers that don't respond as well.

We showed that differentiation of the embryonal carcinoma cells results in a reduced sensitivity to the chemotherapeutic drug cisplatin. I undertook a variety of laboratory techniques, such as cell culture, mouse work and Western blotting, and gained a better understanding of what it is like to work in research.

. . . and the less serious stuff

The weather: Too damn hot, with occasional thunderstorms.

The house: We were given the Zeta Psi frat house to live in during our stay, and it had everything a student could want: a massive flat-screen smart TV, a microwave, a basement bar, chairs, a piano and many more fun features – including a stuffed black bear! The rooms were of decent size, and one had some kindly deer heads to watch over you as you slept.

The main downsides were the many flies in the kitchen, the ineffective blinds, and the list of 'most visited' pages stored on the smart TV – let's just say that the stuffed bear will have seen some interesting viewing!

The food: During my time at Cornell I partook in the finest food the USA had to offer: Twinkies, corn dogs, toaster strudel and s'mores. In my opinion, the English language was not written with s'mores in mind, for there are no words to express what I felt that night . . . the fact that graham crackers are so hard to find in the UK is a travesty.

The night life: Our nights out mainly took place in a local bar, an establishment with a varied clientele. There were a few tables of neon beer pong, which was always good fun, and a 'Pickleback' shot, which was best avoided.

The extracurriculars: As packed as the lab work and programme modules were, we found time for plenty of activities. We went camping and hiking in the Catskills, went boating on a lake, drove to Niagara Falls, set up a slip-n-slide, went on to Toronto for its Pride festival, had a cocktail night, had an evening where I tried 24 wines and 37 cheeses(!), and we watched all three Bridget Jones movies.

The company: While the programme was great, it would have been nothing without the people I spent it with. Ten weeks living with a group of extremely intelligent and talented people from all over the world is a great experience, even when they straighten your hair or ransom your stationery. I hope we will all stay in touch – that way, I'll have somewhere to stay if I visit Sydney!

‘Tail shortening’ in dogs: a backward step in animal welfare for political gain?

Robbie Henderson (Glasgow Junior Rep)

For many years Scotland has been said to lead the way in safeguarding animal welfare. However, this summer the Scottish Parliament voted to amend the blanket ban on non-therapeutic docking of dogs’ tails within Scotland and to exempt working spaniels and hunt point retrievers.

The move was not backed by the British Veterinary Association (BVA) with the President of BVA’s Scottish Branch, Melissa Donald, speaking out against the decision: ‘We are appalled that MSPs voted to reverse Scotland’s previously progressive stance on tail docking, especially considering the evidence against this move.’

The evidence being referred to is government-commissioned research that found that ‘a minimum’ of 320 spaniel puppies would need their tails docked to prevent one tail amputation.

To my mind, the figures simply do not add up. Why put so many five-day-old puppies through unnecessary suffering to protect this tiny minority?

The answer to this may lie in the realms of politics rather than animal welfare and scientific evidence. The amendment was put forward by the Scottish, National Party (SNP), the majority party in the Scottish Parliament. In recent years the SNP has won seats in previously Conservative strongholds in the rural east of Scotland. It therefore has somewhat split loyalties between the left wing, socialist side of the party and the more conservative right wing. It may be suggested that the party is pandering to landowners and gamekeepers who feel very strongly that they should be allowed to dock the tails of their gun dogs.

Regarding the procedure itself, when we hear ‘tail docking’ we immediately think of the boxer or rottweiler left with no more than a stump. Working boxers and rotties nowadays are few and far between, so it seems that these stumps are purely an aesthetic preference.

In the case of the amendment voted on this summer, what is being discussed is termed ‘tail shortening’ rather than docking. A maximum of one third of the tail may be removed within the first five days of life by a qualified veterinary surgeon. The procedure should only be carried out if there is ‘sufficient evidence’ that the dog will be used for work in future.

The chairman of the Scottish Gamekeepers Association, Alex Hogg, attempted to clear up any misunderstanding of terminology by saying that tail shortening ‘is a quick, preventative procedure protecting the animal over its whole working life, leaving it with an expressive, waggy tail.’

My question is: ‘How can a breeder prove within the first five days of life that his/her litter of spaniel puppies will go on to be used for hunting and not live their entire life as a family pet?’

I feel it is also pertinent to note that many young graduates may have never seen the docking procedure in practice. Therefore, it is vital that all vets are given proper guidance on both how and when tail shortening can be carried out. They must not feel pressured into carrying out the shortening of a dog’s tail if they feel ill prepared or are uncertain of the legality of what they are doing. There is also an issue of moral decision making, which may play a part in individual cases.

We must hope that, in due course, clear guidance is produced to allow vets, breeders and potential owners to be on the same page regarding this procedure. Clarification of the ‘sufficient evidence’ required to shorten a puppy’s tail should be paramount. The procedure, when carried out on working dogs, may result in no compromise to welfare – in contrast, when dogs that will never be used for hunting are subjected to undue suffering, we run into serious welfare concerns.

We must not be dragged into the legalisation of aesthetic procedures that we have worked so hard to end. How long before a case is made for legalising ear clipping of dobermans and great Danes on ‘welfare’ grounds? Scotland and the United Kingdom as a whole have moved past the endorsement of these cosmetic practices so we must stand firm on the issue and ensure we do not let protection of welfare slip through the net.

Issues as vital as this should be made on the basis of welfare science and compassion, not party loyalty and tradition. This amendment is not a move forward in the welfare of our companions, and we must hope that it is not the beginning of a downward spiral for political gain.

The ‘opinion’ section in JAVS is a place to share your thoughts on issues of interest. The opinions expressed by individual students may not reflect the official position of the AVS or BVA.

Tackling the pug problem

Laura Kruszewski (3rd Year, Cambridge)

On September 13 this year members of the House of Lords discussed the issue of brachycephalic cats and dogs. I am delighted the plight of these animals has been discussed in Parliament, but the conversation must continue.

As veterinary students, we are all likely to be aware of the problems, including brachycephalic obstructive airway syndrome (BOAS) and skin fold disease, faced by thousands of pugs, Persian cats and similar breeds across the UK. Vets need to take action to ensure this issue does not fade from the public's attention. But what can we do?

One topic brought up during the debate in the House of Lords was the excessive representation of brachycephalic breeds in advertising and media.[1] Many people believe this has significantly contributed to the surge in popularity of short-nosed breeds. In 2016 the Kennel Club reported that three of the top six most registered dog breeds in Britain were brachycephalic, including French bulldogs, English bulldogs and pugs.[2] To end this media-driven rise in popularity, perhaps brachycephalic breeds should be banned from advertising campaigns; aside from the appeal of an adorable pooch to consumers, I struggle to see the link between pugs and the products they are being used to advertise, which range widely from cars to contact lenses.

A more drastic response would be to ban brachycephalic breeds altogether. Since our society has decided to prohibit the Dogo Argentino, Japanese Tosa and pit bull terrier for the safety of humans, would it be ethically correct to ban other breeds to improve the wellbeing of the dog species as a whole? However, this may open the door for other breeds to be banned on welfare grounds; chondrodystrophic breeds, such as dachshunds, could be banned due to their increased risk of intervertebral disc disease. Even the predisposition to obesity, and therefore potentially debilitating arthritis, could lead to the end of pet Labradors. Where would this policy stop?

Reversing the harm

In my opinion, a major aspect of reducing the suffering of brachycephalic animals is to encourage reverse selective breeding by changing the appropriate breed specifications. For example, the French Bulldog Club of England has designed a health scheme, allowing individuals to achieve bronze, silver or gold status depending on the results of tests, such as nostril evaluations and BOAS respiratory tests.[3] Information collected from this scheme is recorded in an online database, allowing for transparency in the health of animals used for breeding. This strategy certainly has scope to be rolled out to other affected breeds.

> *'I struggle to see the link between pugs and the products they are being used to advertise, which range widely from cars to contact lenses'*

Currently, many breed-specific groups recommend that only individuals showing no signs of BOAS should be allowed to reproduce, but there are no legal restrictions on breeding. Perhaps legislation should be altered to allow only animals with a gold rating to be bred from. This strategy could be strengthened by introducing sanctions against unethical breeders, as has happened in Switzerland.[4]

Although reversing the damaging selective breeding that generated the brachycephalic traits in the first instance would be an effective long-term solution, more should be done to reduce the suffering of animals already in existence. Current treatment options for patients with BOAS include surgical widening of the nares, shortening of the soft palate and tracheostomy in more serious cases.[5] Recently, a team at the University of Leipzig found that a procedure of laser-assisted turbinectomy, designed to remove obstructing turbinate tissue from nasal airways, improved clinical signs without significant regrowth of turbinates after six months in 84.2 per cent of dogs tested.[6]

As the future of the veterinary profession, we have a responsibility to continue the efforts of those developing new techniques that aid pedigree dogs and cats. We, as a profession, need to take the lead and work with breeders, owners and policymakers to develop a multifaceted approach, targeting breed standards, public awareness and advertising to minimise the suffering of brachycephalic breeds.

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A new era of teaching and learning

Katie Burden (AVS Treasurer)

Ever heard complaints about new vet grads having it all in the head but struggling to hold a pair of forceps let alone use them? Or about their nonexistent communication skills? It's remarks like this that have been partly responsible for prompting a new era of vet school teaching.

I'm in my final year at Liverpool and well remember the interview process five years ago in Liverpool's 'speed-dating' style assessment. The inevitable question 'Why Liverpool?' came up and, of course, I enthusiastically chirped on about the new curriculum being taught at Liverpool (which I'd spent three hours revising from the vet school website). Realistically though, I didn't have a clue what I was on about. It's only now, four-and-a-half years later, that I feel I can really appreciate the vet course.

As I said, I was among the first intake to set out on the new 'spiral curriculum' and, hence, next year I will be one of the first graduates to be judged on the impact the changes have made.

Last year, there was great debate among students on Facebook about the differences in teaching among the vet schools. I was surprised at how diverse the teaching is in each vet school, given we all seem to be tarred with the same brush once in practice.

Nonetheless, despite all the fierce rivalry at AVS Sports Weekend, I love the idea that, as students, we are able to help each other by lobbying to improve and standardise teaching between the vet schools. So, here's the deal with Liverpool.

Our spiral curriculum essentially means we learn a little bit of everything each year and build on it as we go. We no longer have modules and we only have one set of 'real' exams at the end of each year. This has its pros and cons – it's good because, previously, you were taught and examined on particular topics (ie, anatomy of the head) in first year and then wouldn't revisit those topics again until you were covering surgery topics in final year. However, it does make exams a bit trickier, as you're revising everything for one exam.

The exam structure has also changed massively – we now have a written paper, an MCQ (multiple choice), an EMQ (extended multiple choice), a SPOT and an OSPE (objective structured practical examination) each year.

'Looking back now, there's been the odd place or two where I've felt like the very epitome of the term "spare wheel" but, overall, I don't think I could have got half as much value out of my EMS without the "go do" ethos of the new teaching at Liverpool'

OSPEs were traditionally associated with final year, but as part of the spiral curriculum we are now tested on our practical and communication skills from the first year onwards. The OSPE consists of three stations:

(1) Clinical skills: a random pick of one of 16 clinical skills taught throughout the year, such as stitching up, intravenous catheter placements and fluid rates, running and analysing a urine/blood sample, bovine pregnancy detection/ageing, cat spays, etc;
(2) Professional skills: a mock consult with external actors;
(3) Anatomy station.

Undeniably, the OSPE is the most nerve-wracking exam of all – especially as a first year trying desperately to remember your 'client's' name, look them in the eye and ensure you are 'signposting' all the way through your mock consult. However, I have to admit that now having finally reached fifth year, I really feel it was all worth it. We started our rotations mid-fourth year and for someone who has not been particularly keen on small animals since I came to vet school, I was amazed at how much I enjoyed going straight into consults. I felt prepared and, dare I say it, ready for even the more difficult clients who clearly weren't thrilled at seeing a student instead of a 'real vet'.

During my clinical placements (which we also start in first year), I have been proud to be able to say I was happy to give neutering a go, never faltering at being asked to put in an IV catheter or bandage a leg. Looking back now, there's been the odd place or two where I've felt like the very epitome of the term 'spare wheel' but, overall, I don't think I could have got half as much value out of my EMS without the 'go do' ethos of the new teaching at Liverpool.

That's not to say there haven't been bumps along the way – inevitable with any new curriculum – but I'm glad that we've had the chance to feed back to the vet school and I can now see how the staff have listened and adapted the curriculum for the years below us as a result of our feedback. Overall, I'm excited and proud to be graduating from Liverpool.

Now I've shared the Liverpool experience, I'd love to hear what you think about it and of your own vet school's curriculum. How would you change it if you could?

Can we do more to stop puppy farming?

Rebecca Grace (3rd Year, Liverpool)

Puppy farming is by no means a new problem in the UK or in Europe. Although efforts are being made to tackle it, unsuspecting owners continue to purchase puppies from puppy farms. Can we, as vet students and future vets, do more to raise awareness and help stop puppy farming?

The chances are that we have all seen puppies in practice that may have been victims of puppy farming – for example, all too commonly, a first vaccination consult where the owner arrives not knowing any of the puppy's history. Unfortunately, I have also seen an underage puppy from abroad come into a vets with no proof of having had a rabies vaccination.

Many new owners are unaware that their puppy has come from a puppy farm. Scammers are moving puppies from puppy farms to private homes to sell them, often showing them with fake parents and offering them at a similar price compared with other puppies. It is common for puppy-farmed puppies to have congenital abnormalities, preventable illnesses and infectious diseases: Kennel Club research has found that 20 per cent of puppies – four times the average – bought from pet shops or directly from the internet suffer from parvovirus.[1] Then there are the behavioural issues that can arise from a lack of socialisation during the critical early period of a puppy's life.

Owners are left facing the financial and emotional consequences of their purchase.

So, should we be doing more to make potential owners aware that we can advise them even before they get their puppy? There's definitely scope for intervention here – other research carried out by the Kennel Club[2] has revealed that people are more likely to buy a puppy on impulse than a pair of shoes, with one in five people admitting they didn't do any research before buying a puppy compared with fewer than one in 10 who were prepared to buy a pair of shoes spontaneously. More than a third of respondents (34 per cent) said they had no idea how to find a reputable breeder.

The Puppy Contract and Information Pack can be downloaded from https://puppycontract.rspca.org.uk/home

As vets, we need to maintain the fundamental message that potential owners should always see the puppy interacting with its mother. If she is absent – said to be 'at the vet', 'on a walk', or 'with a relative', for example – then they shouldn't buy it! We must encourage them to be confident enough to walk away if they are not comfortable with anything, no matter how cute the puppy or if they feel they are rescuing it from its situation. If puppy farming is suspected, then they should notify their local authorities, the police or RSPCA.

We now have another resource that we should definitely be recommending – the Puppy Contract and Information Pack, which gives new owners a checklist of all the information required from the breeder (or rescue shelter) and a better insight into any potential problems that may occur.

Perhaps we should also be campaigning to make it harder to buy dogs in general – there's no shortage of online adverts.

Puppy farming is definitely an issue that we can help change, improving the welfare of the breeding bitches and their puppies and reducing our workload for the better.

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Eye-opening insight into the future

Ailbhe Joyce (2nd Year, Dublin)

Where were you on September 20, 2017, the day the structure of veterinary practice was fundamentally challenged?

That might be a slight exaggeration, but a step was certainly made in that direction at the inaugural RCVS Innovation Symposium held at the Shard in London.

This event was inspired by the Vet Futures initiative. Vet Futures is led by the RCVS and BVA, which have collaborated with other groups in their aim to anticipate issues within the veterinary profession before they arise. They've put in place research-based action plans, with broad topics including improving animal welfare, vet mental health and welfare, careers, and business and leadership. As Dublin Student Ambassadors for the Vet Futures project, Aine McManus and I were lucky enough to be invited to attend the London symposium.

Stepping into the Shard I had no idea what to expect. It was only when we entered the Warwick Business School on the 17th floor that the nerves finally hit. Around us were suits, suits and more suits – not exactly the attire of your typical vet student, where lab coats and coveralls are your go-to. We soon spotted our fellow students and I no longer felt like an imposter in a room filled with 'real adults'.

The symposium was opened by Dr Chris Tufnell, Senior Vice-President of the RCVS, who caused some nervous laughter as he brandished a box-shaped microphone, to be thrown between inquisitive members of the audience. His rousing speech officially cued the start of the symposium and left us eager for more.

The first speakers were leading innovators in the fields of business and technology. The focus was mainly on the business aspects of innovation, and even though some of the technical talk went over my head as a mere second-year vet student, one point rang clear. Innovation is not only the creation of new ideas,

Virtually real – trying out new technology

> *'I was astounded at how far veterinary technology has advanced already, and how much technology is just around the corner'*

it is also the removal of systems that no longer work efficiently. The new must actively replace the old, a key sentiment that is the very essence of the Vet Futures project.

Hands on with virtual reality

During a break we met Anthony Chadwick, CEO of the Webinar Vet, who allowed us to try out his virtual reality headsets. As the youngest people in the building, we were only too delighted with the chance to play. What followed was a lot of pinching at empty air and repeating 'View cow', making us look a bit silly from the outside. But through the lens a virtual cow was revealed which, with a wave of your hand, suddenly had its entire skeleton standing beside it, while another wave brought out its vasculature. Getting hands on with this new technology was easily one of the highlights of the day.

After lunch, two of my favourite speakers of the symposium were up, Dr Guen Bradbury and Dr Greg Dickens from Innovia Technology. Their enthusiasm was infectious as they showed us an idealistic world where all vets have access to the best of technology. From using the genome of a puppy to identify and help prevent specific conditions, to combining data from smart collars and litter trays of cats to give a more accurate diagnosis – the future certainly is bright.

Lively panel debates followed, involving discussion of the Internet of Things, smart collars and milking machines for cattle, and DNA sequencers that fit in your pocket. I was astounded at how far veterinary technology has advanced already, and how much technology is just around the corner.

Vivet

Finally, Anthony Roberts, the RCVS Director of Leadership and Innovation, ended the day by introducing Vivet, a networking platform for veterinary innovation (www.vivet.org.uk). This website contains links to expert blogs and advice for vets looking for support with their own innovative ideas, making the idea of bettering the veterinary profession attainable for anyone.

And so concluded the official business of the day. This event was eye-opening, exposing us to a whole new future for veterinary practice. Perhaps the best food for thought from the day was also the simplest: 'The best way to predict the future is to invent it'.

Optimising coffee consumption for productivity

Ben Smith (4th Year, RVC)

With the recommended limit of caffeine per day set to the equivalent of two to three shots of espresso by the Food Standards Agency, it is important that your coffee intake is evidence-led and coffee is consumed at the optimal time to maximise productivity and get the best bang for your buck.

For many veterinary students and professionals coffee is an indispensable part of day-to-day life. In the UK we drink 55 million cups of coffee every day.[1] You could say we're hooked on the stuff – the UK has one of the highest daily caffeine intakes per capita per day (400 mg) worldwide and up to half of our caffeine is consumed in coffee.[2]

A variety of investigations have looked into the impact of caffeine on performance. One study examined the effect of breakfast and caffeine on the performance and mood of participants.[3] Forty-eight individuals were split into four groups by combining presence or absence of caffeine (in the form of coffee) and breakfast. The caffeinated groups had one dose at 7.45 am and a second at 11:15 am. While breakfast alone was sufficient to boost performance in recognition memory and logical reasoning up to lunch time (12:30 pm), the caffeinated breakfast group fared better after lunch. Individuals in the caffeinated groups reported feelings of greater alertness and wellbeing than the non-caffeinated groups. This evidence may suggest that, while a coffee with breakfast has no performance benefit over breakfast alone, coffee does still improve an individual's wellbeing. The data also suggest that the benefits of a mid-morning coffee extend into the afternoon.

The benefit of a mid-morning coffee may be due to the time-of-day effect on memory. This effect causes reducing capacity for memory and logical reasoning as the hours past lunchtime increase. Individuals who self-identify as 'morning people' show a significant decline in memory performance from morning to afternoon. It has been shown that caffeine can reduce this decline to a negligible level.[4]

Therefore, considering the evidence, I suggest that the optimum time to have a single daily coffee during a standard working day is 11.15 am. At this time the performance benefits of breakfast are waning and peak blood caffeine levels would be reached in the early afternoon.

The half-life of caffeine in humans varies from four to six hours. If the working day is extended, as it is for many of us, a second coffee should be consumed at 3.30 pm. However, to avoid sleep disruption it is advised that coffee is not consumed after 4 pm.

And, if you do socialise in your coffee break, make sure it's with productive people – there's evidence that their influence will rub off on you.[5]

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A brief history of veterinary science

Alexander Barker (Historian) and Anna Gregory (Liverpool Senior Rep)

We humans love our animals. When our pets, livestock or working animals fall ill we rightly expect that a professionally trained expert in animal health will do their best for them, using the latest scientific examinations and treatments. However, this notion is only 250 years old and it's well known that we've kept animals a lot longer than that (we've seen the Bayeux Tapestry, it's got dogs and horses in it). So let's discover together how we shifted from the art to the science and understand the very long and proud tradition of the veterinary profession.

Early hieroglyphs show that the Egyptians used various herbal preparations to treat ailments in their animals

Arguably, the origins of animal welfare date back to the domestication of animals as early as 9000 BC. In a time when animals' lives were sometimes valued more highly than human lives as a result of their food and companionship qualities, looking after one's valuable animals demanded a degree of understanding. During many periods of human history, animals have been worshipped as gods and it's poor form to let your god die of a treatable disease. At that time though treatment was largely achieved through trial and error, with a heavy reliance on the perceived benefits of magic, sacrifice and other mystical solutions. This was practised by those who worked with animals and should really be considered as early animal husbandry.

Then, not much happens for about 6000 years, before, all of a sudden, the world of animal welfare and medicine explodes with activity! Well, it still takes a few millennia, but that's good considering the previous several thousand years. By around 3000 BC early hieroglyphs in Egypt detail how to treat a number of ailments with various herbal concoctions and give advice on animal welfare. A short 1100 years later, a number of papyrus texts from Egypt, including the Kahun Papyrus, the oldest medical text, show how Egyptians were experts in animal gynaecology and had a job titled 'cattle overseer' who specialised in cattle welfare, especially during pregnancies and birth. The Bible also shows how the Jewish people were aware of animal disease and animal anatomy in relation to kosher practices.

Throughout antiquity, substantial progress was made in medicine and science. Typically, work done on animals was with an eye to supporting development of understanding of the human body. Giants of philosophy and thought such as Hippocrates, Aristotle and Xenophon carried out extensive research and wrote on animal anatomy, illnesses and welfare.

However, it is not until the 1st century AD that we find our first reference to all things 'veterinary'. A chap called Lucius Junius Moderatus Columella (or just Columella to his mates and editors trying to reduce a word count!) wrote extensively on agriculture, including several treatises on animal care and breeding. He also used the word 'veterinarius'.

There is a lack of clarity on where the word 'veterinary' comes from, but Columella uses it to refer to one who cares for livestock, rather than a medical professional. It may stem from the Latin for 'cattle doctor', or 'beasts of burden' or 'to draw', or even the word for 'old' or 'experienced'. It might not even be Latin at all, with some suggestions that it has Celtic origins in 'Vieh' meaning cattle and 'terrin' meaning to be sick. We'll never know. Just pick one and impress all your friends at parties – nothing fires up a party more than Latin (or Celtic) facts.

Another Roman bloke named Publius Flavius Vegetius Renatus (imagine having that embroidered on your scrub top) has two surviving works to his name: De Re Militari (a book about how to kill people in war better) and Digesta Artis Mulomedicinae (a book about how to heal animals better). This latter book isn't well known now, but it was influential for many years.

Moving forward

Let's accelerate a few centuries. In the Dark Ages and Medieval Age we see a dramatic shift in attitude towards animal welfare. This is not a shift in seriousness or importance but away from cattle and sheep and towards horses for their economic and military significance. In these years the Church had banned dissections and autopsy; therefore, progress in medicine stalled within Christendom.

However, in the period up to the 13th century, known as the Islamic Golden Age, there was a substantial increase in the understanding of horses. Arabic culture professed a passion for horses and they displayed excellent horsemanship; this fostered a greater need to care for their priceless horses. Spain at this time was partially under Islamic rule, and much work done on horses was carried out there.

Following the conquest of Spain by Christian kingdoms (la Reconquista), this passion for horses and animal welfare remained. In most of Europe care for livestock rested with the farmers themselves. For horses it became common practice that farriers would also be required to possess a degree of understanding on horse treatment and welfare. In 1356 in London, following concern for horse welfare, all farriers within seven miles of the city formed a guild at the request of the Mayor of London in order to improve conditions for horses.

Most historians agree that the veterinary profession of trained experts began in the mid-18th century. However, there is evidence to suggest that a veterinary school popped up as early as 15th century Spain.

As a result of mass publishing from the printing press and a number of scholarly institutions emerging, academic veterinary publications began circling around Europe. In 1547 a book from Spain, possibly emerging from these proto-schools, entitled Libro de Albeyteria, provided a comprehensive manual on veterinary practice for those who professed to be 'animal doctors'. This enabled people to begin studying and improve upon their treatment of animals, a form of Renaissance CPD. During this time animal welfare and medicinal practices based upon superstition, magic and astrology were swept away.

The first veterinary schools

This empowered the founding of dedicated and expertly run schools of veterinary medicine in the 18th century. The first school established was founded in Lyons in 1761 by Claude Bourgelat. On the curriculum was zootomy, surgery, pathology, sanitation, pharmacy and horsemanship (presumably as downtime).

The success of this school drew in students from across the continent and led to it being granted a Royal Charter by Louis XV. A second school was set up in Alfort in 1765. The veterinary school project was a critical success and the model Bourgelat set up was replicated across Europe, reaching Great Britain in 1791 with the formation of the Royal Veterinary College.

It was only with the establishment of these schools that one can truly say a veterinary profession was founded. Flowing from these centres of study were dedicated professionals, armed with the most modern of treatments, techniques and skills. The very first wave of graduates from the RVC (then known as the London Veterinary College) was fundamental in forming the Army Veterinary Service (now the Royal Army Veterinary Corps) in 1796 following public outcry over the overwhelming number of horses being lost to poor husbandry rather than enemy action.

The veterinary profession still remained heavily focused upon horses, for they retained their key economic and military role up to the early 20th century when trains, planes and automobiles swiftly replaced them. In 1844 the Royal College of Veterinary Surgeons was founded by Royal Charter. The profession had made huge strides in preventing and treating more and more diseases in more and more species as greater numbers of professionals joined the field. As technology developed, so did the field, and with the exponential growth in veterinary schools, surgeons and scientific knowledge, the profession went from strength to strength.

Women vets

The only thing of note left in this brief (but actually not so brief) history of veterinary science is the demographic change that has taken place in recent decades. It was only following the Sex Disqualification Act of 1919 that the first woman was formally recognised as a veterinary surgeon, with Aleen Cust in 1922. Despite this, the profession remained dominated by men, and by 1960 female vets accounted for only 5 per cent of the profession. However, today, 75 per cent of vets aged 26 to 30 are women.

The profession has come a long way from the earliest days of animal husbandry. We have dramatically shifted in our attitudes towards animals. They are no longer viewed as servants, gods or mere tools and we now achieve standards of animal welfare that our early predecessors could only have dreamed of.

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Canine cognitive dysfunction syndrome

Isobel Arthur (Nottingham Junior Rep)

'They're just getting old' or 'They're going a bit senile' are phrases that many owners of senior dogs will have heard or used to explain why a dog does something out of the ordinary in its old age. However, it is not well known what senility is or why it happens.

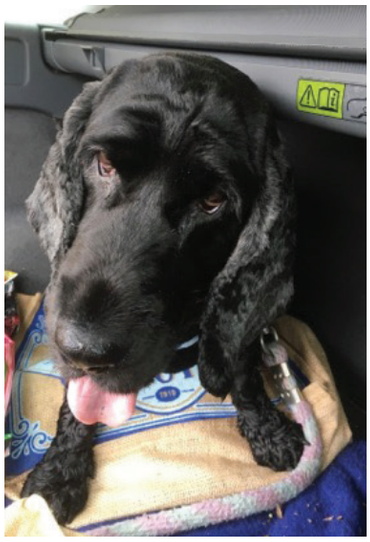
Many people will have heard of Alzheimer's disease, but most do not realise that dogs (and cats) can get something very similar in their senior years: canine cognitive dysfunction syndrome (CCDS) or sundowner's syndrome.

CCDS is a degenerative disease of the forebrain. It affects the pineal gland and so alters the secretion of melatonin. Melatonin secretion normally increases when it is dark, allowing the 'sleep cycle' to take place. This is why CCDS is also called sundowner's syndrome, because the sleep cycle and biological clock are affected, and the changes in awareness and behaviour occur at night or 'after sundown'.

Cognitive changes present as behavioural changes and so many different behaviours and signs are observed with the progression of the disease. Some of these include:

- Disorientation;
- Altered interactions such as increased irritability, anxiety and agitation (this is often referred to as sundowning);
- Changes in sleep/wake cycles such as increased restlessness at night;
- Changes in normal and previously learned behaviours – for example, not being as adept at house training or responding to known commands.

The cause of CCDS is thought to be related to deterioration of the nervous system due to oxidative stress, accumulation of free radicals and cell death – all of these are considered contributing factors to the dysfunction. However, because the precise cause is currently unknown, the condition is difficult to treat. Treatment is often aimed at slowing the progression of the disease and treating the clinical signs. This means lifelong therapy is usually required.



Sundowner's syndrome affects dogs in their senior years

Selegiline is a medication that can be used to help control more severe signs. It is a monoamine oxidase inhibitor and is thought to slow the breakdown of dopamine in the brain and to have protective effects on the brain's nerve cells.

Certain commercial and prescription diets for older dogs have been shown to (somewhat) improve cognitive function, while natural supplements, such as antioxidants (vitamins C and E, selenium, flavonoids), gingko biloba, omega-3 fatty acids and medium chain triglycerides, have also shown promise in managing signs and slowing the course of disease. Pheromone therapy and melatonin have been used to reduce anxiety. Other therapies that stimulate the brain, such as brisk brushing, massage therapy, interactive walks and toys, can also help to slow disease progression.

CCDS is very common, and although not completely preventable, its course can be slowed and the condition managed with advice and guidance.

For more information see http://thebark.com/content/cognitive-dysfunction-syndrome

Seeing the bigger picture after graduation

Maria Nestoros

Over the weekend of October 14 and 15, the Royal Veterinary College campus played host to the Veterinary Business Alliance 2017 October Symposium. Speakers from various walks of life talked on veterinary leadership, the profession and what comes next after graduation.

The talks inspired all in attendance and provoked much debate among the clinical and preclinical students.

Sarah Heath and Hannah Capon discussed some of the common problems in companion animals which might inspire a change in the way clinics are conducted and result in better care being given to both animal patients and clients.

Sarah, a leader in the field of animal behaviour, introduced the stark reality that 'Most dogs with behavioural issues are euthanased before reaching two years of age.' This, she said, highlighted the need to think of behaviour as a clinical problem.

Hannah had realised there was a deficit in the way vets address and manage pain in companion animals with chronic pain particularly being under-addressed as an issue. 'More than 80 per cent of dogs aged eight years and above have arthritis,' she said, yet how many owners know when to seek medical help for their arthritic pets? To improve understanding of the disease, Hannah founded Canine Arthritis Management (www.caninearthritis.co.uk), a website that aims to help owners and vets alike identify pain and arthritis in dogs.

The RVC's very own Holger Volk was also present at the weekend; as were Lynne Hill, Alan Robinson, Mark O'Byrne and John Sheridan. All kindly shared their experiences after graduating with veterinary degrees, their original plans and dreams and the different paths they all took.

An attentive audience listens to Stephanie Writer-Davies explain the art of writing a CV

'The glass ceiling can be broken, you just need to be willing to push hard enough!'

Lynne encouraged students, especially women, to never settle for something less; saying 'The glass ceiling can be broken, you just need to be willing to push hard enough!'

Alan furthered this theme by stressing that practice management and ownership are achievable goals, no matter where you start; confidence and competence are the keys to having a successful career in a job you love.

Holger confirmed the importance of instincts, saying that 'The unconscious is like an elephant, where the conscious is the rider; there is only so much your conscious mind can work against your unconscious.'

To aid those who struggle with CV writing, Stephanie Writer-Davies gave insider tips on how to be every employer's type on paper, with a short, relevant CV, and a covering letter that gives a true insight.

As a well-rounded closer, Helen Totey of OnSwitch emphasised the importance of customer relations. The vet profession is, at the end of the day, a service industry.

Life after Brexit

Anthony Roberts, parliamentary intern to veterinary peer Lord Trees, gave an insight into the post-Brexit profession showing how there were still plenty of opportunities as well as challenges that must be overcome.

Overall, it was a successful weekend which gave students from all degree courses and years a lot to consider. It achieved the goal of helping everyone to see the bigger picture beyond graduation and encouraging them to keep their horizons wide open.

Special thanks to Hills for its generosity and also to Mark O'Byrne for his invaluable support.

A jungle book

Emily Johnston (3rd Year, Edinburgh)

Having grown up on David Attenborough, Animal Park and any other vaguely wildlife-related programme I could find, the opportunity to experience some Attenborough-esque jungle was never going to pass me by. So, on finding out about Communidad Inti Wara Yassi (CIWY) and its wildlife custody centres in Bolivia, where walking ocelots, pumas and jaguars through the jungle becomes a daily reality, I jumped at the chance to go.

I scraped together every penny within my reach to fly to El Parque Ambue Ari, a promised land for the trafficked wildlife of Bolivia.

After my flight and seven hours spent on a local bus from Santa Cruz with no idea where to get off and a very minimal grasp of Spanish, I and some fellow new volunteers could only helplessly attempt to seek assistance. We were starting to think we'd missed our stop and mild panic at the thought of becoming stranded in rural Bolivia late at night with no plan was just about setting in when the bus stopped and a large group boarded. 'Gringos!' someone exclaimed, 'Going to Parque?' Relief washed over us as we realised we'd run into other volunteers and now had someone to follow.

Arriving late on a Saturday night we left the bus into darkness. We were quickly found beds – straw mattresses – and set up sleeping bags under mosquito nets. We were shown which taps were drinking water, others which were definitely not drinking water and we were shown where the toilet block was – ecological toilets with no flush and separate poop and pee holes. I went to bed, with a sweater as my makeshift pillow, disorientated and wondering what I'd managed to get myself into.

Finding my feet

The following morning, as the rest of camp's occupants started on their morning feeding tasks, we were given the full tour – suddenly in the light of the morning everything was a little less disorientating and starting to seem a little more idyllic. During our introductory talks we learned that the majority of the animals under the care of CIWY have been rescued from black market trades in wildlife. CIWY started its work when its founder, Nena, came across a tourist attraction formed of a chained monkey smoking for photographs and the amusement of passers-by.

Vanesso the ocelot became Emily's companion in Bolivia

She negotiated and the monkey was bought from its 'owner'. It became the first and last animal CIWY ever paid for – exchanging money for the animals provides a continuing trade in them, regardless of where they are sold to. Now, with three centres across Bolivia, CIWY cares for hundreds of animals, of which we would meet only a fraction.

We were assigned animals to work with within a few days of arriving. Working on one area in the mornings and another in the afternoons for the whole month allowed us to build close bonds with animals in our care. Once assigned our animals we'd be given meticulous files about them detailing their history, health problems, care routines and unique personality quirks – nothing was missed – ensuring the best possible care to suit the individual animal.

Daily routines

Every morning, after a routine of feeding the animals and then feeding ourselves, the camp split off into the sweltering heat and depths of the jungle to spend time with the animals. Checklist: cage key, food, water, supplement, pocket knife, phone? Yes, ready to go. A short trail from camp each day I'd find my ocelot, Vanesso, purring and eager for a walk through the towering trees and the masses of patuhu plants that lay along a laguna trail. Layered in long trousers and impractically thick shirts, myself and my 'cat partner' Bex, sweated our way along Vanesso's trails as far as he pleased to stroll, sprint or snooze. A walk could entail anything from two hours of actively exploring every inch of the jungle, twice trying persuade him to release unlucky snakes from his mouth, to admiring him as he dozed lazily in the sun, stretching out, rolling around and wrapping us around his paws.

When you're living surrounded by so many people whose love for the animals and the work they're doing with them makes them put up with endless mosquito bites and embrace some of the most basic

CIWY cares for a wide range of species at its centres in Bolivia

living conditions, it's hard to imagine that there are other people, elsewhere, who held these beautiful creatures in the conditions from which they were rescued. Working with Vanesso, seeing him become more affectionate towards me over the month I was there, as he learned to trust to me more, sometimes it was hard to imagine that, before he came into CIWY's care in 2006, he was a caged attraction in a Chinese restaurant.

'Tell yourself you're over your fear of insects, try to ignore your relentless mosquito bites and learn to enjoy your showers cold, because paradise is quite real, hidden away in the Bolivian jungle'

For some of the other animals at Ambue Ari, their previous lives have left a more noticeable impact. One jaguar, Jauncho, limps as he walks and is completely blind, having sustained an injury to his eye at his previous home in a Bolivian zoo when he was left in his cramped enclosure as it was cleaned with a flame thrower. One of the monkeys suffers recurring gastrointestinal problems having been fed pizza and junk food as an infant. These are just the start of the lists and lists of animals CIWY and its volunteers endlessly dedicate their time to rehabilitating.

Drawing me back

Over the month I spent at Ambue Ari I saw various volunteers return for their second or third visit and several others extend their stays to spend longer with the animals they'd fallen in love with. I did wonder how I would have coped had I been there during the wet season that Bex, my cat partner, had experienced. In spite of endless mosquitos, rain and swamps, she intended to return again next year for the wet season when volunteer numbers hit their lowest. Now, back in the real world after my too short month, I think that maybe I could flee back to the jungle for it as well – CIWY's veterinary internship appeals a little too much. If only I could find a way out of Christmas exams . . .

Tell yourself you're over your fear of insects, try to ignore your relentless mosquito bites and learn to enjoy your showers cold, because paradise is quite real, hidden away in the Bolivian jungle.

■ More information about CIWY can be found at https://intiwarayassi.org/

Are summer research projects for me?

Isaac Florence (RVC Intercalating Student)

This summer I spent 10 weeks working in a genetics lab at the Cambridge vet school and had a jolly good time doing so.

Most students, when released from placements, would look forward to a rare summer of relaxation and bliss. However, having realised that I quite enjoyed doing my second-year research project at the RVC, when I heard about summer research placements, I hoped there might be something of interest available.

On offer were the Biotechnology and Biological Sciences Research Council (BBSRC) STARS programme options, a list of projects that academics from UK veterinary schools and veterinary research institutes offer to students. I was hooked by the prospect of receiving an academic stipend to do interesting work over the summer and by the line 'preference will be given to students applying to placements based at institutions other than their own'. Vet students are pretty loyal to their own schools, but secretly we all want to know what it's like at the other seven in the country.

There were projects on all manner of interesting subjects: viruses, bats, genetics, parasites and bacteria. Some already had students, some required students from older years, some needed specialist skills. However, on enquiring about one, run by Dr Lucy Weinert, a Wellcome Trust Fellow at the University of Cambridge Department of Veterinary Medicine, I received an immediate reply offering a phone interview/chat to talk about the project.

It became clear that this project, an analysis of genome sequencing from *Streptococcus suis* mutants, was going to be a large and complex undertaking, but it sounded exciting enough for me to apply for the funding from the BBSRC and the Veterinary Schools Council.

(from right) Isaac with project supervisor Lucy Weinert, Eric Miller and Nazreen Hadjirin outside the Coombs Building at Cambridge

I was lucky enough to win a place thanks to guidance from Lucy on how to write my application. A week after exams I took myself off to Cambridge vet school, sited on the outskirts of the city, sitting snugly among the fields and modern centres for physics, engineering and chemistry.

Meeting the team, I began to wonder if I'd made a huge mistake. They were all lovely and welcoming but somewhat perplexed that a vet student would want to do a summer research project: apparently, it's usually bioscience students.

I was introduced to how to code by the brilliantly patient Eric Miller. Apparently an essential skill, yet rarely discussed in lectures, these computing processes became enjoyable and vital to my research. A week in I began to think the whole project was less daunting and things seemed to break down into manageable chunks. I had my own desk, and everything was calm and going smoothly.

The next week though I was asked to present to the Infectious Disease Department about my previous research on bovine TB. It came with the warning 'You must bring cake! If you don't bring cake they ask nastier questions, it's kinda like a bribe.' I made cake. Brushed up on my bTB knowledge. They liked both.

The summer had a number of similar daunting 'I don't belong' moments during stressful times. It was made better by the lab dinners and other people's cakes. Everyone I met, from the people I chatted with in the staff room, to the Head of Department, James Wood, was so welcoming and genuinely interested in the project I was doing. As well as learning a lot, I really enjoyed it all. The rush of discovering something that could further our current knowledge, even by a little bit, is incredible. I'm due to present the work I did during my project at the inaugural Veterinary Students' Research Conference in Bristol on November 11, 2017.

When March 2018 comes around I would strongly encourage anyone to apply to the summer placements scheme. Even if you don't know whether research is what you want to go into, you learn, receive financial support, meet great people and have a fantastic time. There's nothing to lose.

The more the merrier

Seth Kennard (5th Year, RVC, *JAVS* Editor)

Following the success of the RVC's first International Veterinary Students' Association exchange with Budapest last year (see *JAVS* Spring 2017), planning for something bigger and better started early. The original plan for a three-way exchange with Estonia (Tallinn), Greece (Thessaly) and Germany (Leipzig) was expanded, with invitations being sent to all IVSA chapters globally.

Thus it was that, on Monday, October 16, 48 veterinary students heralding from the Netherlands, Ghana, Thailand, South Korea, Finland, Greece, Switzerland, Belgium, Indonesia, Germany, Canada, Poland and Estonia arrived in London ready for a week of adventure and learning.

The week started on Monday night with introductions and games in the union bar before an early start on Tuesday to head up to the RVC's countryside campus. Here our visitors were treated to tours of the campus, practicals in our clinical skills centre and a very hands-on practical at the farm. Condition scoring the cows, a lambing practical and a sheep handling session gave everyone a chance to experience typical practice on a British farm. It can be eye-opening to learn from other students how diverse the requirements of the vet course can be. Very few of the students had handled or worked with sheep before and many saw them as a smallholder's pet rather than a serious industry. Tuesday evening finished with a classic social down at Wetherspoons.

First time for everything – very few of our visitors had handled sheep before

Wednesday opened with a morning in Camden market, which offered some protection from the clichéd British rain. The real highlight of the day, however, was the wildlife dissections. Cadavers donated from local wildlife hospitals provided an opportunity to explore the anatomy of foxes, seagulls, hedgehogs, cats, ferrets, deer, herons, squirrels, and cormorants. A follow-up lecture on native, endangered and reintroduced species of the British Isles topped off a great afternoon.

Not the best hangover cure

Thursday started late and, for many, hungover, thanks to the drink deals at Zoo, the club frequented the night before. If you're looking for a cure for a hangover then perhaps leave a rapid tour of London off the list, as visiting Covent Garden, Trafalgar Square, the National Portrait Gallery, Buckingham Palace, Westminster, St Paul's Cathedral, Tate Modern and Borough Market in one morning can exacerbate the symptoms.

An IVF practical gave everyone the chance to get hands-on

An afternoon lecture from Sterillium caused some ripples among students who had been taught to wash their hands every minute using as strong disinfectants as possible. It led to some interesting discussions between students comparing practice standards that they had observed.

Cultural highlights

To give the visiting students a real taste of British culture a barn dance was organised with plenty of spinning, dosey-doeing and moves that can't quite be described using words alone.

Friday offered a chance for many to explore more of the sights of London, with a trip in the morning to the Grant Museum of Zoology and an afternoon free either to nap and prepare for the evening or, for the energetic, to see even more of the big smoke.

The evening social showcased some of London's best and busiest bars and clubs with a classic bar crawl. By this point in the week everyone knew everyone and any apprehension that comes from forming such a large group of people had definitely melted away. The night was spent putting memories down in pen, in the form of the classic IVSA White T-shirt party.

Exhausted and elated after a barn dance

Saturday was without doubt the classiest day of the week with a group outing to Ascot. Much racing was watched, much champagne was drunk and much merriment was had. After failing to see Her Majesty the Queen at her own central London residence, it was lovely to see her enjoying a day out at the races.

Music royalty was also in attendance in the form of George Ezra at the Ascot afterparty.

Seeing the sights of London, in some typically British weather

All good things must end

Sunday was the final day of a very long week and what better way to end it than a brunch with new-found friends hailing from all corners of the world. Despite the cultural and national differences, everyone was united in their passion for all things veterinary and animals – that and their passion for IVSA.

Be sure to check out the next issue of JAVS for updates on how the RVC students fare during their return trip to Germany, Greece and Estonia.

A special thanks goes to Sterillium for its support, without which the exchange could not go ahead.

Vet students on the world stage

Rosie Herrington (President, IVSA UK & Ireland)

This year I was lucky enough to attend the World Health Organization's (WHO's) 70th World Health Assembly as a part of the International Federation of Medical Students' Associations (IFMSA) (or Students for Global Health as the UK association is known).

Rosie (left) at the World Health Assembly in Geneva

Forty-seven medical students from around the world attended the assembly along with three veterinary students – we were vastly outnumbered! However, this presented a great opportunity to shout on behalf of the International Veterinary Students' Association (IVSA) that vet students are interested in global health and can make a valuable contribution to the field.

The World Health Assembly, in short, is the WHO's annual gathering, with health workers from across the world descending on the United Nations Palais de Nacions in Geneva. Health ministers from all the countries attend (ie, the Jeremy Hunts of the world) as well as the WHO executive board and a plethora of affiliated NGOs (for example, the World Veterinary Association, StopTB, UNICEF). IFMSA takes a delegation to advocate its views by giving statements at the sessions, to meet and network with world experts and to generally convey the youth enthusiasm for global health. As IVSA is not yet affiliated to IFMSA (it's being worked on!) our medical student friends kindly let us tag along.

Our trip began with a four-day workshop aimed at bringing us all up to speed with the WHO's priority points, as well as fine-tuning our leadership and 'advocacy' skills (no, I didn't know what that was either – it's 'the act of pleading for, supporting or recommending'). Directly after this we were let loose at the assembly.

The real aim of the World Health Assembly is to elect a new Director General and for the countries to discuss 10 days of agenda points, including antimicrobial resistance (AMR), migrant health, epidemic surveillance, polio, etc. There are also side events occurring throughout every day. It was at these that we could have our say, debate topics and meet with world experts (and get free wine and food!). Of particular interest to us as veterinary students were the events on AMR, neglected tropical diseases, climate change and healthcare workforce.

Overall, it was an inspiring experience and fantastic to be able to represent IVSA. IVSA and the other vet students (Sandra Stelzer and Caroline Bulstra) were hugely supportive and we all hope that, in future, more vet students can take part (watch this space!).

The Moredun Institute helped make it possible for me to attend – my trip was funded through a Moredun Foundation Award Scheme. More information about award scheme can be found at www.moredun.org.uk

Getting involved in global health

By getting this far through the article it's assumed you too are interested in global health. I was very lucky to get this opportunity, but this and many others are open to you as well! Here are a few potential options you could look into:

- World Health Assembly, May 2018 – This will be advertised at the very end of this year/beginning of next year, so keep an eye out on the AVS and IVSA global pages.
- Internships at the WHO (unpaid, minimum six weeks, applications in February), FAO (up to $700 a month stipend, minimum three months, rolling applications) or OIE (unpaid, minimum one month, rolling applications) – all of these accept veterinary students, but have extra requirements that you will need to check out on their websites.
- Join your local One Health Club, Global Health Club or Students for Global Health (SFGH) chapter – or get involved at the national level by attending SFGH general assemblies and events (follow them on Facebook for more).
- Follow the IVSA Standing Committee for One Health on Facebook and write for its global veterinary public health journal, great for the CV and a good way to get your opinion out there.
- For interesting global health and food security updates, news and job vacancies sign up to the London International Development Centre and International Livestock Research Institute e-mail lists.

Discovering the benefits of being part of the IVSA

Sophie Arogundade (4th Year, RVC)

Let me set the scene. It is summer 2017, you have been in vet school for four years and, as much as you would love to sit through another lecture on radiographic imaging of a horse's foot, you crave adventure. But there's one small caveat – the cost. There's no time for student jobs after preclinical EMS, EMS and studying. Then, unexpectedly, an e-mail notification pops up on your phone: 'SU SAVMA is offering up to £1000 for travel grants!' How could you not apply?

That is exactly how I ended up getting a travel grant to attend the 66th International Veterinary Students' Association (IVSA) congress in Malaysia in July and August this year. Encouraged by the current IVSA vice-president and secretary Jordon Egan, I applied for the Student American Veterinary Medical Association's (SAVMA's) RVC travel grant and was lucky enough to get the two-week conference paid in full.

My knowledge of the IVSA was minimal. I knew it was something international and I knew two of my friends enjoyed running the RVC branch. The true gravity of the IVSA was lost on me, but Malaysia changed that. During my time there I discovered the great benefits of being part of the IVSA.

Landing at Kuala Lumpur airport at 10 pm, confused and disorientated after my 17-hour flight from London, I caught an Uber to a hotel where I was greeted by the IVSA Malaysia team to book me in and get a room ready for the exciting two-week adventure that lay ahead.

For the most part, the conference was held at the Universiti Putra Malaysia, but we visited three different parts of the country; Kuala Lumpur, Malacca and the beach resort of Kelantan. The theme of the meeting was 'One Health' and the idea that collaboration between human and animal medicine could result in an increased depth of knowledge and medical advancements for both parties was explored through a series of lectures and practicals. General assemblies were held to review policies and vote new members into positions within the IVSA.

Perspectives of veterinary medicine

The first few days were hectic and I met loads of other veterinary students from all over the world. From Europe to South East Asia everyone had a very different idea of what veterinary medicine meant for them. For some, it was a means of conservation; it was a vet's duty to protect and raise awareness of endangered species in the hope of preserving the animals for the future. For others, it was One Health; the vet's role was to increase public awareness of zoonotic disease, such as rabies, keeping both people and animals safe with knowledge of clinical signs and vaccination programmes. For a few, it was a day job where they helped the general public take better care of their animals within a clinical setting.

Never before had I really considered the true breadth of the veterinary medicine degree and how it affected people from all over the world. The IVSA allowed for ideas, personalities and backgrounds to

come together in one place and to learn from each other to better the profession worldwide.

During the conference, there was a lot of politics that were lost on me; I hadn't the faintest clue about how the amendments to policies changed anything. The lectures given by the university's lecturers were interesting, but it was the discussions that I found to be one of the most interesting experiences. For example, when discussing deforestation within the palm oil production industry, there were stark differences between students from countries that produced palm oil for the economy and those that did not. The Malaysians saw little negative press regarding palm oil production and were strongly encouraged to use it. In Western countries, it was strongly discouraged, with thought of deforestation and ill health being related to the use of palm oil. Malaysians found it shocking that 'palm oil free' products are advertised overseas, especially when palm oil is used so widely by them at home.

Connecting with others

The IVSA also encouraged making connections with other students. This stimulates links between universities, creating opportunities for people to travel the world and experience veterinary medicine from another point of view in a different setting. In the conference room of a local hotel, delegates set up stands to explain the benefits of visiting their university and the facilities offered, giving others an idea of what to expect when visiting. This was perfect for students who wish to travel during their degree and broaden their horizons on veterinary medicine, but who do not have the time to do so. For example, travel during years 3 to 5 of a UK veterinary degree is difficult as 26 weeks of EMS must be completed before taking finals. The IVSA conferences and exchanges are a perfect opportunity to travel and meet new people while still counting the time as EMS.

As the delegates came from all over the world a 'cultural night' is held at every IVSA conference.

The Batu caves guarded by the golden statue of Murugan

Students are able to share some traditional food and drink from their country with everyone in attendance. It was like going on a mini world trip in one room with everyone showing different methods for taking a traditional drink or eating a particular food. It was one of the best nights of the conference.

Of course, during the trip there was some exploring done as well. We visited the Batu caves and played with the monkeys that lived there, soaked up some local culture, and appreciated the beautiful architecture of the many mosques, which reflected the strong influence of the Muslim religion. We also tried some of the local street food as we roamed the streets at Malacca's night market.

At the end of my two-week stay I was saddened at the prospect of returning to my normal life. With placements at veterinary clinics booked and due to start soon, my adventure felt increasingly dream-like during its final days. I had felt so at home at the conference, making great new friends with students at other veterinary schools across the UK and the world.

On the morning after the goodbye drinks in celebration of our time together as 200 vet students who may never see each other again, I sneaked out of my shared hotel room and sombrely met my friend from the RVC as we were both travelling back on the same flight. We loaded our bags into the taxi, reminiscing about the country and the people we were about to leave. It had been a wonderful experience, one that I wish I could repeat; it taught me so much about the meaning of veterinary medicine, the worldwide impact of the profession and the way it was all united by the IVSA.

Thanks to RVC SAVMA I was able have this experience, which truly meant the world to me. So, for anyone who is interested in worldwide travel, meeting a bunch of great people to hang out with, and getting some interesting ideas for what to do with your degree, contact the IVSA representative of your university. If your IVSA rep isn't holding as many exchanges or advertising the opportunities as much as you would like, how about giving them a hand?