

The AAALAC Fellowship report 2017 -- why all RAnTechs should apply

In August 2017 I received the formal letter informing me I had been chosen to be the 2017 recipient of the prestigious AAALAC Fellowship Award which left me feeling both excited and very humbled. I have had the great pleasure of meeting many of the previous recipients from the U.S. when organising their time at MRC-NIMR and in the last couple of years at The Francis Crick Establishment, and so to now count myself as part of the 'international fellowship clan' was an honour indeed.

So the planning and countdown to the October adventure started, with renewal of my recently expired passport the first thing to consider (thankfully I checked with plenty of time!). In the weeks preceding the trip, many people from across the industry as well as many past recipients (here in the U.K. as well as in the U.S.) got in touch with me to help with the planning of various visits, attendance at the national AALAS meeting as well as various social gatherings. The staff at AAALAC International, and especially Elizabeth, were absolutely great at planning the minutiae of the trip... with almost military like detail.

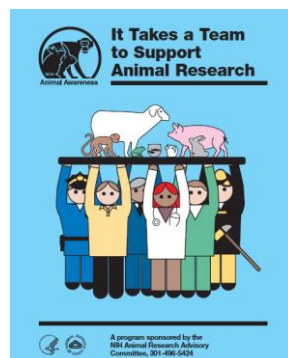
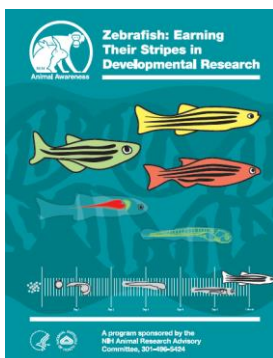
The fortnights programme would include a week visiting various establishments to gain an insight into their animal care programmes, followed by a week at the national AALAS meeting in Austin, Texas. October 7th was to be the start of the adventure, flying to Washington Dulles. On arrival there was a car waiting to take me to the hotel in Bethesda where I would be staying for the first week. Sunday 8th was a free day so I took the opportunity to take the Metro into Washington, D.C. and visit the White House, Washington Memorial, Capitol Hill and Lincoln Memorial. I then walked across the Potomac River Bridge to explore Arlington Cemetery before catching the Metro to the visit the 9/11 Pentagon Memorial.

Week 1 Facility Visits

On Monday I was picked up from the airport by Robert H. Weichbrod, M.B.A., Ph.D. Chief, Animal Program Administration at National Eye Institute, NIH Bethesda, and one of the editors of the famous and exhaustive reference book "*Management of Animal Care and Use Programs in Research, Education, and Testing*" <https://www.crcpress.com/Management-of-Animal-Care-and-Use-Programs-in-Research-Education-and-Weichbrod-Thompson-Norton/p/book/9781498748445> now in its second edition. Rob drove me, on his day off, to my first destination which was to be the University of Maryland where Dr Doug Powell and his staff would provide an overview of the animal care programme at a large academic institution. University of Maryland is a large public research university that houses many different species used for research purposes including alligators, owls, turtles, many aquatic species as well as farm animals including hair sheep and cattle.

Both alligators and barn owls are used for research on hearing and how sounds are detected and interpreted after transmission through air and water (in the case of the alligators). The fistulated cows are used to study digestion, and I have to say are the friendliest and most docile cattle I have ever seen which is a real testament to the care and welfare they receive from the staff. After spending some time chatting with animal care staff and visiting the Office of Animal Welfare Assurance, I came away with a really good overview of how IACUCs operate, welfare inspections and compliance reporting with regard to AAALAC accreditation as well as learning a little more about the American College of Laboratory Animal Medicine (ACLAM). If you are unfamiliar with ACLAM look them up, they have some interesting resources on their website regarding general animal science and technology, welfare, ethics and how they approach recruiting more veterinary medical students into the fields of laboratory animal medicine: <https://www.aclam.org/education-and-training/position-statements-and-reports>.

Tuesday was spent at the National Institute of Health (NIH), in Bethesda, Maryland. This place is immense and is equivalent in size to a small UK town! Approximately 20,000 people work there (they have their own police dept.) and after going through the tight security procedures I was taken to the National Institute of Mental Health transgenics department to get an overview of the core transgenic services and in particular the production of transgenic marmosets for neuroscience research. The successful generation of transgenic marmosets, along with their similar physiology, will make these animals ideal models for future neuroscience research. Next stop was with the Office of Animal Care and Use (OACU) for an overview of the NIH Animal Care and Use Program. The OACU is a small team that has the daunting task of managing oversight and compliance for 21 IACUCs at the Bethesda campus, bearing in mind the IACUC (Institutional Animal Care and Use Committee) is the U.S. equivalent of the U.K.'s AWERB, I could understand why their Intramural Research Program is considered the largest worldwide. It was also interesting to hear about the wildlife control program utilising veterinarians that oversee a 24hr on-call schedule. In the U.K. we are quite familiar with having to deal with wild rodents, pigeons etc. At NIH they have to deal with geese, deer and the odd black bear that decides to wander onto the grounds! I was also shown some of the wonderful posters used for their outreach and information programmes. I very much encourage you to visit their website that provides a huge amount of resource material about IACUCs, their training programmes and some fantastic awareness posters: <https://oacu.oir.nih.gov/>.



Just two of my favourite posters

Next visit was to the zebrafish facility. At the Crick we have what I consider a large facility with capacity to house 75,000 fish, but this seems quite small compared to the NIH facility that has the capacity to house up to half a million fish! Then after a working lunch discussing my role as NTCO with the Building 49 Central Animal Facility team/Priority One Services Management team

I was given a tour of the small animal facilities and cage wash area. This was to be just a small taster of what was to come later in the week, but it soon became very apparent what a professional, knowledgeable and dedicated team they are, a common theme found at all the establishments I visited. The evening was then spent dining at the Sweet Water Tavern in Virginia before being driven (once again by Rob Weichbrod) to spend the night at the Howard Hughes Medical Institute, Janelia Research Campus in Ashburn, Virginia. Wow, what a place this is! After spending the night in the first-class accommodations there (that would put many top hotels to shame), I was introduced to the animal care team and was provided with an overview of vivarium surgery, rodent breeding, experimental areas and then after lunch a visit to their aquatics facility followed by an overview of the Drosophila resources and Dragonfly arena. During the tour I also noticed the valve stop alert, a very simple but effective “Valve Stop” device that provides a visual and physical barrier to alert staff and researchers when a cage location on a ventilated rack does not have a watering valve in place. This is a great example of simple but effective and innovative design in an animal care facility (have a look here for further information: <https://www.janelia.org/open-science/unique-valve-stop>). The Drosophila area was a technically advanced automated facility utilising three robots to maintain a huge stock of flies and a dedicated team producing transgenic fly lines. To see the robots in action I very much suggest you visit the webpage: <https://www.janelia.org/support-team/drosophila-resources>.

The Dragonfly arena was really interesting. The dragonfly is an extremely efficient predator that predicts the flight of its prey (in this case Drosophila) so they can effectively plot a course to intersect them using the least amount of energy possible. The research uses Dragonflies that have small backpacks with electrodes inserted into their brain to record brain activity in flight. The arena has sets of high-speed infrared cameras positioned around the room that can then track their flight. It is hoped that this research will help explain how neurons solve problems. (For further reading into this amazing science as well as pictures of the dragonflies with backpacks and the hunting arena have a look here <https://www.janelia.org/news/anthony-leonardo-tracking-dragonflies-flight>.)

Day four was spent back at NIH Bethesda for a tour of the large animal facilities, surgical suites and NHP behavioural area. It was also fascinating to be able to see behavioural experiments in progress and chat with one of the researchers about their work which studies the links between activity in cortical neurons and depth perception, and to realise just how little we understand about the human brain. Researchers and clinicians have made huge advances in the last couple of decades in treating many cancers but as the general population is living longer and neurological disorders are increasing neuroscience is going to be a very important area of research for future generations.

Next stop was a working lunch provided at the AAALAC International Executive Office in Frederick, M.D. where I was given an overview of the accreditation program and resources available to institutions. There are nearly 1,000 accredited programmes in 46 countries with many different types of institutions demonstrating their commitment to responsible animal care and use by having their animal care programmes accredited. AAALAC accreditation takes a performance-based approach and encourages a path of continuing performance for institutes that seek to accredit their animal programmes. If you unfamiliar with what AAALAC is all about look them up at: <https://aaalac.org/>.

After lunch there was a short drive through beautiful autumnal countryside to Poolesville, M.D. to have a tour of the NIH animal centre. There I toured a facility that houses a large number of primates of different species including rhesus, marmosets and squirrel monkeys. Evening was spent with some of the NIH team and I have to say a huge thank you to them and the Priority One Services team for the generous hospitality and especially to Seth for introducing me to oysters...I am now converted!



Thanks Seth!

The last day of the scheduled facility tours was spent at MedImmune in Gaithersburg, M.D. where I had the chance to meet up with fellow recipient Donna Goldsteen who, along with Bob Dauchy, visited us at the Crick (while it was still a building site) in 2016. Donna was very much taken by the doors that were being fitted to our facility rooms so it was nice to see she had used the design in her facility. After a quick lunch in a local taco bar I then had a free afternoon to explore the local area and prepare for the second part of the adventure.

Week 2 – AALAS

After flying from Washington to Austin, Texas I arrived at my hotel just a stone's throw from the Austin Convention Centre which was hosting the 68th National AALAS Meeting. AALAS kicked off on the Sunday with Techniplast welcome breakfast where it was great to meet up with some familiar faces from the U.K. and also be introduced to some new colleagues in the industry. After this we had a meeting orientation and some trade talks. The scale of AALAS was immense with nearly 4000 delegates attending, literally hundreds of posters being displayed and a full programme of platform talks and workshops running from 8am to 5pm most days. The trade exhibition hall was on such a large scale that I think they should hire cycles to get around. There were many vendors we are familiar with in the UK but also many we do not routinely see at U.K. symposia. The national meeting was also interspersed with many great social events both formal and informal where it was great to both network and also relax with colleagues and new found friends. It was also a great chance to meet up with past recipients of the Fellowship, and to be accepted into their 'clan' was a truly proud experience. I must admit I was feeling a little nervous at the thought of attending the AAALAC/AALAS/ICLAS International Luncheon where I would formally receive my award, be presented with a crystal globe and have to give a thank-you speech in front of 300 attendees. But as with all the events that were scheduled I was made to feel extremely welcome and put at ease by the friendly nature of all I met, and it was great to be there with Kati, who was the U.S. recipient and the first Fellow to see the Crick with animals in it and to receive our awards at the same time!



The awards

The experience of being awarded the Fellowship has been both inspirational and rewarding. I have met so many new colleagues and experienced such a diverse range of laboratory animal science and research that I doubt I would have ever been able to if I had not applied. I would like to thank all I met and all those involved in making this a memorable experience especially Priority One Services, Inc. and the Datesand Group Ltd (who sponsor the award), Rob Weichbrod and the team at NIH for their generous hospitality throughout the two weeks, the staff at the AAALAC office for organising the schedule and of course my sponsors for putting me forward for the award. Thank you.

Finally, I would encourage all RAnTech's to apply for this, I will certainly be encouraging others and if you do apply and are not successful the first time do not be discouraged. Apply again, and again if need be – you will not be disappointed, it really will be an experience of a lifetime. If you are successful then just a couple of tips: take a large journal and try to jot down as much information as you can on a daily basis, take 30 minutes at the end of each day to record what you did and with whom as it is such a packed itinerary that you will risk information overload without it. Make sure you have an up to date TB vaccine so you can fully experience a tour of the NHP facilities. Take your passport with you to the facilities you visit as you may need to use it for security clearance/ID.

Get writing those applications and good luck!

Alan Palmer, MIAT RAnTech. NTCO Francis Crick Institute