

Equine Science Newsletter 2020

List of Courses

MSc
 Equine Science
 Animal Science
 Livestock Science

BSc Honours
 Equine Science
 Equine Studies
 Equine and Veterinary Bioscience
 Life Sciences

Foundation Degree
 Equine Studies

Interested? Phone Debbie Nash on 01970
 622575 or Email: dmn@aber.ac.uk



News from Llest Equine Centre

It has been a busy year for Llest Equine Centre. Demolition of temporary stables and relocation of water and power points has welcomed enough space for the addition of



new tie-up posts and a new set of stocks. Both of which will enhance the teaching taking place on the yard. As usual, we are hosting our unaffiliated dressage and show jumping leagues and the competitions already held have been very, very popular. Our BUCS Equestrian Teams have been thrown straight into training as their competitions occur very early on in the academic year with external coach and BD judge, Dianne Hesketh-Jones coming in and providing some quality training once a semester. B Team have shown an impressive run of form to win every competition so far and have qualified for the Regional Finals with a competition in hand. A special mention must go to Naomi Roberts (B Team) who has been placed highly in all of the competitions she has ridden at. Well done Naomi!



Our monthly clinics with young dressage rider Lucy Pincus are continuing to thrive with many riders going on to feel the benefits of her knowledge, producing British Dressage wins from preliminary level up to medium. We are also very fortunate to host the brilliant Islay Auty FBHS twice a year, bringing with her a wealth of knowledge and spaces always fill up fast. As well as the competitions and clinics, we were very happy to welcome back TopSpec and Dengie nutritionists to present a lecture to the FDS Sc Equine Studies students and provide accurate feed plans for all liversies. We

are looking ahead to a busy 2020: the yard is set to host a gastroscopy clinic in conjunction with our local veterinary team for external clients, making use of the new stocks; regular saddle fitting clinics; and plenty more clinics and competitions, culminating in the crowning of our Dressage and Show jumping League winners.

MSc students enjoy three days at Gregynog

Every year the MSc Equine Science students go to Gregynog Mansion near Newtown to hear speakers from international experts in the field of Equine and Animal Science.

The speakers this year included Prof Duncan Hannant, Nottingham Vet School (equine immunology, infectious disease, vaccination and control strategies), Dr Julia Kydd, Nottingham Vet School (obesity and equine immune function plus equine hepatitis virus), Dr Andrew Hemmings Royal Agricultural University (equine behavioural neuroscience), Prof John Newcombe (specialist stud vet and equine reproductive physiology expert) among others. This is always a great opportunity to not only hear about ground breaking research from the horse's mouth!! But provides a great opportunity for students to get to know each other and network with the speakers all helped by the usual Christmas dinner!!



Equine research success

The past 12 months have been very busy on the research front with PhD students completing their doctorate training programmes, exciting papers being published and new projects getting underway.

Maithe deBarros, completed her PhD titled 'The ex vivo and in vitro transcriptomic profiles of equine endometrium using an explant model to further study endometritis'. This essential work validated the use of a laboratory-based model of uterine inflammation; a common cause of subfertility in mares. The technique can now be used to study the inflammatory response and has great potential as a screening test for potential novel treatments to improve treatment of this common condition in broodmares. Maithe has recently submitted her first paper for publication and has now returned to her native home, Brazil, but is looking for post-doctoral research projects to take on, either in Brazil or here in the UK. Maithe was supervised by Dr Debbie Nash and Dr Mina Davies Morel. Well done Maithe!



Maithe deBarros after completing her PhD viva. Left to right: Prof Patrice Humblot (external examiner, SLU, Sweden); Dr Maithe deBarros, Dr Debbie Nash (supervisor); Prof Luis Murr (internal examiner, Aberystwyth University).

Former PhD student, **Dr Clare Winton** submitted the final paper of three from her thesis. The paper, published in Ecology and Evolution, is titled 'Genetic diversity within and between British and Irish breeds: the maternal and paternal history of native ponies'. The work provides valuable information and recommendations to guide breeding and conservation of native pony breeds for preserving their genetic resources. Clare's PhD was supervised by Drs Debbie Nash, Matt Hegarty and Mina Davies Morel.

We also have a number of exciting equine MRes projects currently underway.

Cosette Darby is using a cutting-edge laboratory model to assess the effect of an anthelmintic (a worming drug), specifically praziquantel used to kill tapeworms, on the caecal microbiome. Kat Montgomery is seeking to improve equine egg freezing using techniques developed for human oocyte vitrification.

Josh Downing (MRes.), **Daniella Amiouny** (undergrad.) and **Line Lekang** (undergrad.) are currently carrying out important research projects into equine sleep. Sleep is critical for the wellbeing of all domesticated animals and yet the lack of sleep is rarely monitored. The horse in particular, because it stands for such large portions of the day (approximately 80%), has limited opportunity to engage in sleep states, particularly REM sleep which requires the animal to be lying down with no muscle use. Horses are seen as 'opportunistic sleepers' reflecting an evolutionary strategy of predator avoidance (by not lying down) with higher frequencies of coming in and out of sleep states. This means that the horse is potentially more susceptible to getting poor sleep due to changes in its environment (e.g. unfamiliar sounds, changes of stable, changes in lighting). The aim is to examine how routine changes in husbandry (bedding depth and night time light exposure) might affect sleep duration in the horse and also how this might be impacting on important aspects of behaviour and cognition such as learning and memory. Josh, Daniella and Line will be presenting their results at this year's UFAW conference in Birmingham www.ufaw.org.uk/bham20. Very best of luck with these exciting studies!



Lateral (top) and sternal (bottom) recumbent behaviour



Equine and Veterinary Bioscience student wins industry award

Kathryn Wilson, a final year BSc Equine and Veterinary Bioscience student spent a year working for Randox Biosciences as part of her Year in Employment Scheme (YES). She worked in a Business Development Role, helping them to launch a new range clinical molecular diagnostic tests. During her time she participated in 14 conferences throughout the UK and Ireland negotiated contracts with several universities for biochemistry instruments. Every year Randox hold a competition for all their intern students, and Kathryn was runner up Business Student of the Year for 2019 of a total of 62 students! Huge congratulations!

Students on all our BSc Equine and Equine and Veterinary Bioscience courses have the opportunity to take a year in industry, to gain valuable employability skills.



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