Winter 2011

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Season’s Greetings

It’s December already – where has 2011 disappeared?? For ETB-Pegasus it has been an exciting whirlwind of a year, with lots of developmental work, meeting lots of new clients and partners, and continuing to work with established partners.

The ETB-Pegasus team would like to take this opportunity to wish all our readers a very happy and peaceful Christmas and may Olympic year 2012 be everything you could possibly wish for.

ETB-Pegasus assisting vets

We are pleased to report that one of our local equine veterinary clinics has been most impressed with the ETB-Pegasus system and in 2012 we will be working to further develop our analysis tools to assist vets in their diagnostic work with horses.

Meadowbrook vet Gethin Maddocks MRCVS declares:

“The Pegasus Gait Analysis System has proved an invaluable tool in evaluating both lameness and poor performance. The system is portable and easy to use and can be applied to the horse in virtually any situation eg cross-country, capturing data about every limb and stride, making it easy to recreate specific performance problems and objectively analyse them.

The system collects a wide range of data including limb phasing, cannon angle and hock angle. This data can then be provided in a detailed report.

A key advantage is the objectivity of the data, this removes the subjectivity of visual gait analysis and allows evaluation of asymmetric gaits.

The system also provides potential to analyse horses’ movement which offers potential for training and selection.”

Measuring Racehorses

We are pleased to have the support of Newmarket racehorse trainer, Jane Chapple-Hyam. We are now measuring the stride characteristics of her racehorses in training so she can monitor the effectiveness of her training methods, and can pick up changes in their way of going on the gallops.

Jane and her staff have been most helpful and hospitable in our visits to her busy training yard, and they are already finding interesting results from our analyses.

Annual BEVA Congress 7-10 September 2011 Liverpool

Once again this year ETB-Pegasus supported the annual BEVA congress where we met old friends and new, and gained an insight into the amazing leading edge technologies entering the world of medicine for our equine friends. We had a lot of our international customers come and say hello, especially those from Sweden and Holland, and much interest was exhibited in our launch of the Horse-Rider Interactive service that we launched at the Congress.
The 7th International Equitation Science Conference was held in the Netherlands at the end of October with a theme of Equitation Science: principles and practices – science at work. On the Popular Equitation Science Day Pegasus was one of the demonstrations seen by all 280 attendees. In the conference, many of the presentations, ETB-Pegasus systems were used in and are summarised below.

If you would like to read more about this annual conference and all the abstracts and presentations please take a look at their website or contact us directly [www.equitationscience.com](http://www.equitationscience.com). And to top it all Lotte Hardeman was awarded the most promising student award, so congratulations to her. Details of her work, extracted on the following page, have subsequently been published on [http://www.horsetalk.co.nz/news/2011/11/116.shtml](http://www.horsetalk.co.nz/news/2011/11/116.shtml).

Next year the conference will be held in Edinburgh, hosted by the University of Edinburgh’s Royal (Dick) School of Veterinary Studies. The theme is Equitation Science – The Road Ahead. It will showcase how equitation science has developed as a discipline, and how new innovations in technology can be used to improve practice.

What a perfect platform for ETB-Pegasus to show its potential!

Abstracts need to be submitted by 16 March 2012, so if you are working on any research related to improving horse welfare through the application of scientific principles, in any area of equitation relating to both horse and rider/handler/driver/trainer, why don’t you apply?

If your college or university already has an ETB-Pegasus kit, why don’t you find a project where you can put it to use? Trials can be run so easily and data accessed and analysed quickly and in almost limitless ways.

If you don’t have access to an ETB-Pegasus kit, now is the time to be asking your education facility why they don’t have it. Having an ETB-Pegasus kit must be one of the most cost effective means for objective data gathering and analysis – and it is so simple to use! And if there isn’t enough budget for the purchase of a kit, we can offer rental, daily trials or data provision to get your projects off the ground. Just give us a ring or send us an email to discuss how we could help you.

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**Abstracts using ETB-Pegasus from session 5 at the 2011 ISES Conference**

**Theatre 6 Objective detection of locomotion asymmetry using a 3D inertial sensor gait analysis system in sound horse. L. Hardeman** (see next page for more details).

Poster 11 The effect of collection and extension on tarsal flexion and fetlock extension at trot by the AHT. Their conclusion was that extended trot produced greater loading and hence greater risk of suspensory ligament injury compared to collected trot. For this reason it is recommended that horses spend limited time in extended trot to reduce the risk of SL injury.

Poster 12 The use of objective evaluation of the locomotor performance of Friesian horses by Utrecht & Ghent Universities & the Friesian Society. Their conclusion identified ETB-Pegasus as a reliable system to objectively measure the quality of the locomotor performance of horses, and has the potential to assist judges in finding useful variables for early selection and identification of premium horses.

Poster 13 A Preliminary Study into quantitative analysis of self carriage in dressage training by Nottingham Trent Universities using the “give and retake reins over X” movement of BD Novice test 24 (2002) as the movement measured and judged. ETB-Pegasus gait analysis was compared against judges’ marks and comments and the study identified the potential role of objective analysis tools for assisting in the development and education of dressage riders, trainers and judges.

Poster 14 The difference between minimal and maximal riding influence on limb phasing symmetry in the sports horse by Utrecht & Ghent Universities using ETB-Pegasus to measure limb phasing of sports horses. Their results indicate that the use of maximal aids in the training of sports horses appears to reduce symmetry in limb phasing and might increase the risk of asymmetry-related injuries.

Poster 15 Modern analysis of carpal joint movement at different walking gaits using a new inertial sensor modality by University of Groningen, Utrecht University using ETB-Pegasus to measure how stride duration and carpal joint angle interact at different types of walk. Preliminary results indicate stride duration decreases going from collected through working to extended walk, while joint angles of the carpus do not change. The data could also be used for modelling forelimb locomotion to detect early locomotor disturbances.
Jochen Schleese, founder of Schleese saddles and Saddlifit 4 Life in Germany and Canada, proved to be an excellent and fascinating presenter when he fronted a well attended lecture and demo day in Hertfordshire, to launch new saddle company ESF. Company director, Laura Whitteron, was delighted when we performed an ETB-Pegasus trial on one of the horses who we measured wearing his own saddle and then in one of Laura’s Schleese saddles. That have been ergonomically designed and fitted to give the best possible fit for both horse and rider. To quote from Laura’s website, www.ergonomicsaddlefitting.com, “Part of the clinic was working with Jo Green from ‘Pegasus – Equine Gait Analysis’, who used her gait analysis machine on one of the horse and rider combinations, and showed the before and after results at the evening lecture. No one, including Jo herself, having previously seen them. Gasps in the audience said it all. To see an objective result in black and white as such was brilliant. Thanks Jo! “

Good luck Laura in your new venture. All at ETB-Pegasus wish you every success and we will look forward to working with you again in the future.

Founder of Applied Equine Podiatry, K C la Pierre, has been so impressed with his ETB-Pegasus kit that he invited us to join the Applied Equine Podiatry team on their stand at this year’s Your Horse Live weekend at Stoneleigh Park on 12-13 November. With a record number of visitors (in excess of 15,000) on a mission to get the most of this orgy of equine education, entertainment and retail therapy, we knew it would be difficult to find the room to measure a horse, so we opted instead to measure people. It was really interesting to show people the asymmetry (or otherwise) of how they walked, and everyone who had a go was suitably impressed with the speed of getting their results and of the nuances of how they actually took each stride.

KC’s lectures were brilliantly supported, with standing room only at the one I attended. He is now incorporating ETB-Pegasus into all his Applied Equine Podiatry training as an invaluable and objective way of demonstrating how the effects of trimming and balancing affect the way a horse moves.

KC also exhibited the Pegasus system at the International Equine Conference on Laminitis and Diseases of the foot in West Palm Beach, Florida in October. The feedback from these people, who were seeing the system for the first time was very encouraging and has led to further demonstrations. So if you are in the USA and are interested in Pegasus then contact KC directly by emailing: pegasus@equinepodiatry.net.

ISES Presentation & L. C. Hardeman
Objective detection of locomotion asymmetry using a 3D inertial sensor gait analysis system in sound horses
The aim of this study was to measure the normal equine locomotion pattern using a 3D inertial sensor system enabling measurement of the symmetry of the movements in different gaits on different surfaces. The locomotion pattern of seven warmblood horses was measured using the Pegasus Stride System.
It appears that the segment angles of the right forelimb at walk on the clockwise circle were significantly larger than those of the left forelimb. In the hind limbs at walk and trot on a circle the segmental angles (ie, forward and backward) of the outside limb were significantly larger than those of the inside limb. The coronal angles (sideways) of the outside limb at walk and trot on a circle were significantly larger than those of the inside forelimb whereas the coronal angles of the hind limbs were not significantly different.
A stance preference test showed a significant left laterality of two horse and overall a significant left preference in all horses.
Left laterality might facilitate bending to the left and thus reduce the segmental angle of the inside limb on the anteclockwise circle but increase that of the inside forelimb on the clockwise circle. This could result in larger segmental angles on the outside hindlimb and larger coronal angles of the outside forelimbs.

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