Monday 9 April 2018

HOGAN SUITE  
10:30 -11:30  
**Challenges in Scientific Research with Large Animals**  
Chair: Dr Keelin O’ Driscoll

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>10:30</td>
<td>Opening and Introduction</td>
<td>L Boyle, Teagasc</td>
</tr>
<tr>
<td>10:50</td>
<td>Licencing authority’s perspective on research involving large animals</td>
<td>J Lenehan, HPRA</td>
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<tr>
<td>11:10</td>
<td>The designated vet’s perspectives on research involving large animals</td>
<td>M D’Alton, UCD</td>
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<tr>
<td>11:30</td>
<td>Break</td>
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HOGAN SUITE  
11:35 -12:30  
**Two of the 3RS**  
Chair: Nola Leonard

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>11:35</td>
<td>Making decision about refinement for large animals</td>
<td>P Hawkins, Head of Research RSPCA</td>
</tr>
<tr>
<td>11:55</td>
<td>Experimental design in research with large animals kept in groups</td>
<td>J Grant, Teagasc</td>
</tr>
<tr>
<td>12:15</td>
<td>Discussion and close</td>
<td></td>
</tr>
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</table>
### Monday 9 April 2018

**HOGAN SUITE**  
13:30-15:10  
**Sustainability, Globalisation and Climate**  
Chair: Dr Karl Richards

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30</td>
<td>235</td>
<td><strong>Food security, global health and environmental sustainability:</strong></td>
<td>H C J Godfray (Oxford University)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>challenges from increasing meat consumption</td>
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</tr>
<tr>
<td>14:00</td>
<td>1</td>
<td><strong>Reducing nitrous oxide emissions from grazed grasslands</strong></td>
<td>K G Richards, M Harty, C J Watson, K L McGeough, R Carolan, D J Krol,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>R Laughlin, GJ Lanigan, PJ Forrestal</td>
</tr>
<tr>
<td>14:10</td>
<td>2</td>
<td><strong>Livestock insurance: a tool to reduce economical loss of farmers</strong></td>
<td>A Koirala, P Bhandari</td>
</tr>
<tr>
<td></td>
<td></td>
<td>from climate change related hazards</td>
<td></td>
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<tr>
<td>14:20</td>
<td>3</td>
<td><strong>How will the nutritional quality of European pastures be affected</strong></td>
<td>M Dellar, C F E Topp, G Banos, E Wall</td>
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<tr>
<td></td>
<td></td>
<td>by climate change?</td>
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<tr>
<td>14:30</td>
<td>4</td>
<td><strong>Effects of grassland sward diversity on nitrous oxide emissions</strong></td>
<td>C J Bracken, G J Lanigan, K G Richards, S R Tracy, C Müller,</td>
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<tr>
<td></td>
<td></td>
<td>following fertiliser N application under ambient and wet soil **</td>
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<td>conditions**</td>
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<tr>
<td>14:40</td>
<td>5</td>
<td><strong>Novel metrics for assessing, monitoring and improving dairy farm</strong></td>
<td>A D Soteriades, K Rowland, D J Roberts, A W Stott</td>
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<td></td>
<td></td>
<td>sustainability**</td>
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<tr>
<td>14:50</td>
<td>6</td>
<td><strong>A review of the activity data used to estimate national methane</strong></td>
<td>A D Soteriades, K Rowland, D J Roberts, A W Stott, D O’Brien,</td>
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<td></td>
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<td>emission factors for Irish livestock**</td>
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<td>L Shallo</td>
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<td>15:00</td>
<td>7</td>
<td><strong>Effect of dietary tanniferous Vachelia karroo leaf meal on methane</strong></td>
<td>D Brown, R M Mmamakgone, J W Ngambi</td>
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<tr>
<td></td>
<td></td>
<td>emission and productivity in yearling Boer bucks**</td>
<td></td>
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<tr>
<td>15:05</td>
<td>8</td>
<td><strong>Improving nitrous oxide emission estimates from cattle excreta</strong></td>
<td>D J Krol, R Carolan, E P Minet, K L McGeough, C J Watson,</td>
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<td></td>
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<td>P J Forrestal, G J Lanigan, K G Richards</td>
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### Monday 9 April 2018

#### HOGAN SUITE
15:30 - 17:00

**Impact of Brexit on the Irish and UK Agri-Food Sector**
Chair: Matt Dempsey

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>15:30</td>
<td>Impact of Brexit on the Irish Agricultural Sector</td>
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<tr>
<td></td>
<td>K Hanrahan, T Donnellan, F Thorne (Teagasc)</td>
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<tr>
<td>16:00</td>
<td>Impact of Brexit on the UK agri-food industry</td>
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<td></td>
<td>S Thomson (SRUC)</td>
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<tr>
<td>16:30</td>
<td>The Impact of Post-Brexit Trade Agreements on UK Agriculture</td>
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<td></td>
<td>S Feng, M Patton, J Davis, J Binfield (AFBI)</td>
</tr>
</tbody>
</table>

#### HOGAN MEZZ I
13:30 - 15:00

**Animal Health & Disease I**
Chair: Dr Bernadette Earley

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>13:30</td>
<td>Evolving views on bovine respiratory disease - an appraisal of potential</td>
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<td>challenges and solutions in livestock production</td>
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<td>G Murray (DAFM)</td>
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<td>14:00</td>
<td>Clinical presentation, somatic cell count and cytokine secretion in</td>
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<td>response to intramammary infection of Holstein Friesian heifers with</td>
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<td>isolates from two Staphylococcus aureus lineages</td>
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<td></td>
<td>D A Niedziela, M P Murphy, J Grant, O M Keane, F Leonard</td>
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<tr>
<td>14:10</td>
<td>Use of selective dry cow therapy to control mastitis and reduce</td>
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<td>antimicrobial use</td>
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<td></td>
<td>S McParland, N Byrne, N Ryan, J Flynn</td>
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<td>14:20</td>
<td>Elevated inflammatory markers and impaired complement activation in</td>
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<td>cervical mucus early postpartum are distinguishing features of dairy</td>
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<td>cows which develop clinical endometritis</td>
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<td></td>
<td>M Adnane, A Chapwanya, K G Meade, C O’Farrelly</td>
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<td>14:30</td>
<td>Schmallenberg virus: pathogenicity and teratogenicity in the</td>
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<td>embryonated chicken egg model</td>
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<td>A Collins, J F Mee, P Kirkland</td>
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</tbody>
</table>
Monday 9 April 2018

14:40 13 Investigating the occurrence and potential mitigation of fluorosis in ruminant livestock along the East African Rift Valley
K E Waddams, C J Newbold, C J Thomas, G Seddaiu, E W Wambu, K M Mtei

14:50 14 Why the use of preventative treatment for livestock diseases is not always cost-effective: a case-study of an economic game theory model of sheep scab prophylaxis
E J Nixon, R Wall, H R Vineer

14:55 15 Investigation of the relationship between quarter somatic cell count and udder skin surface temperature of dairy cows measured by infrared thermography
D T Byrne, H Esmonde, N McHugh

HOGAN MEZZ I
15:30 - 17:15

Gut Microbiome
Chair: Dr Helen Warren

15:30 Welcome

15:35 239 Improving animal health and reducing the environmental footprint of animal systems via systems microbiology
M Hess (University of California Davis)

16:10 240 Microbiome repair and rehabilitation: normalisation of gut function
R Murphy, K Horgan (Alltech)

16:45 241 Function and dysfunction of the gut, at the molecular, cellular and tissue level
R Arsenault (University of Delaware)
### Monday 9 April 2018

**HOGAN MEZZ II**  
09:00 - 11:00  
**Innovation in Teaching and Learning**  
Chair: Prof Alan G Fahey

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Number</th>
<th>Title</th>
<th>Speaker(s)</th>
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</thead>
<tbody>
<tr>
<td>09:00</td>
<td>16</td>
<td>Evaluation of the communication methods used to disseminate the findings of a dairy research farm for extension purposes</td>
<td>C Bambrick</td>
</tr>
<tr>
<td>09:10</td>
<td>287</td>
<td>Problem based learning (PBL) its possibilities for innovative thinking in Agricultural Science Teaching</td>
<td>T Barrett, UCD Teaching and Learning</td>
</tr>
<tr>
<td>09:30</td>
<td>288</td>
<td>Successfully adapting a PBL teaching approach within a knowledge transfer and farm innovation module</td>
<td>M Gorman, UCD, School of Agriculture and Food Science</td>
</tr>
<tr>
<td>09:45</td>
<td>289</td>
<td>Workshop - Problem based learning (PBL)</td>
<td>T Barrett, M Gorman (UCD)</td>
</tr>
</tbody>
</table>
Monday 9 April 2018

HOGAN MEZZ II
12:30 - 17:00

Student Programme
Chair: Jamie Macfadzean

12:30 ‘Speed pitch’ careers forum and lunch
(2min talks from invited organisations and face to face discussion on employment opportunities)

13:30 Welcome, introduction

13:45 Career path talks from invited speakers

15:45 Coffee break (AA Winners)

15:50 140 The effects of supplementing drinking water with molasses on the performance of UK Holstein-Friesian heifer calves
C Bolton, E Bleach

15:53 278 Investigating the effect of altering enzyme concentration in lipase, amylase and protease assays for use in the animal feed industry
M Jarvis, H Ho, R Furmage

16:00 Group discussion (each group led by one of the speakers with direct opportunity for students to pose questions and generate ‘big questions’ for panel discussion)

16:20 Panel discussion (all invited speakers discussing topics generated from group work and differences in their approaches or advice in pursuing careers)

16:45 Closing remarks

17:00 Finish

Speakers
Alison Carrington, University of Aberdeen
Callum Harvey, Knowledge Transfer Network
Emmeline Hill, Equinome Ltd and UCD
Helen Miller, University of Leeds and BSAS
Nick Canning, Harbro
Victor Olori, Aviagen
Stafford Vigors, UCD

Social Event to be held at Dicey’s Russel court Hotel, 21-25 Harcourt Road, Dublin:

19:00- 19:30 Arrive for pub quiz in Dicey’s Garden function suite (sandwich buffet)
19:30 -22:00 Pub quiz and prizes
22:00 until late Post quiz entertainment by Dicey’s Garden DJ
Monday 9 April 2018

DAVINE SUITE
09:00 - 10:30
Industry Prize Session
AA and IA welcome - join us for breakfast
Chair: Dr Helen Warren/Dr David Wilde

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>09:10</td>
<td>H B Rooney</td>
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<tr>
<td>09:20</td>
<td>A A Tonks</td>
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<tr>
<td>09:30</td>
<td>A Lee</td>
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<tr>
<td>09:40</td>
<td>S K Duffy</td>
</tr>
<tr>
<td>09:50</td>
<td>A Diana</td>
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10:00

DAVINE SUITE
13:20 - 15:05
Monogastrics - Innovation, Raw Materials and Enzymes I
Chair: Dr Stephen Mansbridge

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
</tr>
</thead>
</table>
| 13:20 | 242     | Nutritional innovations in pig production
 | C L Walk (AB Vista) |
| 13:50 | 17      | Effect of toasting time and inclusion rate on rapeseed meal digestibility for broilers
 | H Juin, E Tormo, P Carré, A Quinsac, C Peyronnet, M Lessire |
| 14:00 | 18      | Exogenous feed enzymes as a means of increasing feed efficiency in grower-finisher pigs: a systematic review and meta-analysis
 | A Torres-Pitarch, E G Manzanilla, G G Gardiner, J V O’Doherty, P G Lawlor |
| 14:10 | 19      | Effects of feeding varying levels of crude protein with or without exogenous phytase on growth and slurry gas emissions of growing pigs
 | A O Lala, J G M Houdijk, E L K Osafo, A O Oso |
Monday 9 April 2018

14:20  20  Effect of ß-xylanase and ß-glucanase in wheat based diets achieved through different agronomical conditions on nutrient digestibility and growth performance in young pigs  
L C Clarke, T Sweeney, E Curley, S K Duffy, G Rajauria, J V O’Doherty

14:30  21  Examination of the effects of exogenous fibrolytic enzymes on the release of xylose from different cereal types in vitro  
T Dale, T Parr, J M Brameld, M R Bedford

14:40  22  Barley diets varying in chemical composition with or without enzymes can affect performance, nutrient digestibility and nutrient transporter gene expression in finisher pigs  
L C Clarke, T Sweeney, E Curley, S K Duffy, S Vigors, G Rajauria, J V O’Doherty

14:45  23  Neonatal energy supplementation of low birth weight piglets does not enhance their health and survival  
O Schmitt, L Boyle, E M Baxter, K O’Driscoll

14:50  24  Nitrogen (N) utilization of weaned rabbits fed diets supplemented with varying levels of baker’s yeast (Saccharomyces cerevisiae)  
B M Shehu

DAVINE SUITE  
15:20 - 16:00  
Monogastrics - Innovation, Raw Materials and Enzymes II  
Chair: Dr Abdul Chaudhry

15:20  25  Negative effects of cross-fostering on survival, growth performance and welfare of pigs  
J A Calderon Diaz, E G Manzanilla, A Diana, L A Boyle

15:30  26  Effect of sugar beet pulp and L-carnitine supplementation in gilt gestation diets on gilt weight and lactation feed intake and progeny growth  
H B Rooney, K O’Driscoll, J V O’Doherty, P G Lawlor

15:40  27  Natural strategy for the replacement of zinc oxide in newly weaned piglets  
H Hall, M Nyachoti, M Hossain, D Harrington

15:50  28  Replacement of soybean meal with Nannochloropsis spp: its effect on growth performance of weaner rabbit  
L T Egbevale, O O Adeleye, O D Olabisi, O Y Ayo-Ajasa, O F Smith, O G Sodipe, M Julius, D Gazal, O S Sowande
Monday 9 April 2018

NALLY SUITE
10:30 - 11:30
Aquaculture
Chair: Prof Simon Davies

10:30 243 Nutrient requirements for growth, health and robustness in salmon farming
R Waagbø (Institute of Marine Research, Bergen)

11:00 29 Galacto-oligosaccharides: an investigation into dietary inclusion levels for rainbow trout (Oncorhynchus mykiss) for improved carcass characteristics
A Miles, S J Davies, S C Mansbridge

11:10 30 Nephrotoxic effects of copper oxide nanoparticles in Cyprinus carpio assessed by histological profiles
F Jabeen, A Noureen, A S Chaudhry

11:20 290 ARCH-UK Presentation
Prof Brendan McAndrew

NALLY SUITE
13:30 - 15:00
Antimicrobial Resistance: Practical Solutions for the Issue of our Time
Chair: Dr Helen Warren

13:30 291 Reducing antimicrobial use: Implications for the food chain
B Gilmore

14:00 292 Promoting the gut microbiome: Reducing the need for antibiotics
R Murphy, K Horgan

14:30 293 Practical solutions for reducing antimicrobial use
J Taylor-Pickard
### NALLY SUITE 16:15 - 18:05

**Rapeseed Meal**

Chair: Hadden Graham

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<tr>
<td>16:15</td>
<td>294</td>
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<tr>
<td>16:45</td>
<td>31</td>
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<td>16:55</td>
<td>32</td>
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<tr>
<td>17:05</td>
<td>244</td>
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<td>17:35</td>
<td>245</td>
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#### 16:15 294

A commercial introduction to rapeseed meal and the possibilities for non-ruminants  
N Ingman (Cargill)

#### 16:45 31

The variability in apparent (AID) and standardised ileal digestibility (SID) of rapeseed meal for broilers  
M E E Ball, E Magowan, L Wright, T Windscheffel, H Graham

#### 16:55 32

The use of near infra-red reflectance spectroscopy to predict ileal digestibility of essential amino acids in rapeseed meal for pigs and broilers  
M E E Ball, E Magowan, T Windscheffel, R Garcia, H Graham

#### 17:05 244

Oilseed rape variety and heat intensity during oil extraction impact on nutritional value of oilseed rape co-products for pigs and poultry  
J G M Houdijk, M M Kasprzak, J Wiseman, S P J Kightley, H Appleyard, P Carré, O A Olukosi (SRUC, University of Nottingham, NIAB, OLEAD)

#### 17:35 245

Hexane-free rapeseed meals Feasibility of alternative techniques and their impact on quality  
P Carré (OLEAD)
**Tuesday 10 April 2018**

**HOGAN SUITE**  
09:00 - 10:00  
**Hammond Lecture**  
Chair: Prof Richard Dewhurst

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 09:00 | 246 Precision agriculture meets the genomics revolution  
N C Friggens, C Kamphuis, J Lassen, S McParland, H Leclerc (INRA, AgroParisTech, Wageningen University, Teagasc, Viking Genetics) |

**HOGAN SUITE**  
10:30 - 12:20  
**Presidents Session - Nutri-Genomics**  
Chair: Prof Richard Dewhurst

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 10:30 | 247 Genomics of feed efficiency and related traits in cattle  
K Keogh, S M Waters, D A Kenny (Teagasc) |
| 11:00 | 248 The adaptations of the gastrointestinal tract of the young calf: from pre to post-weaning  
M A Steele (University of Alberta) |
| 11:30 | 33 Identification of differentially expressed genes in the M. longissimus thoracis et lumborum from full-sibling lambs divergent for fatty acid profile  
T Alam, V Campos, J P Hanrahan, P Allen, S M Harrison, T W J Keady, M T Rayan, R M Hamill, T Sweeney |
| 11:40 | 34 RNA-Seq analysis of whole blood from early lactation dairy cows reveals association of anti-viral response pathways with poor fertility  
M Salavati, Z Cheng, D Werling, D C Wathes, GplusE Consortium |
| 11:50 | 35 Common differentially expressed genes in muscle, adipose and liver of pigs differing in feed efficiency and intramuscular fat content  
R M Hamill, J Horodyska, H Reyer, N Trakooljul, K Wimmers, P G Lawlor |
| 12:00 | 36 Differential gene expression profiles of liver and muscle tissues in pigs divergent for feed efficiency  
S Vigors, J V O’ Doherty, K J Bryan, T Sweeney |
### Tuesday 10 April 2018

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Authors/Institutions</th>
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<tbody>
<tr>
<td>12:10</td>
<td>37</td>
<td>The effect of exogenous yeast enriched protein concentrate from the bio-ethanol industry (YPC) on pig cytochrome b (CYTB) genomic DNA content in faeces</td>
<td>K R Slinger, A H Stewart, H Hall, H V Masey O’Neill, M R Bedford, J M Brameld, T Parr</td>
</tr>
<tr>
<td>12:15</td>
<td>38</td>
<td>Identification of gene networks contributing to compensatory growth in bovine ruminal epithelium</td>
<td>K Keogh, D A Kenny, S M Waters</td>
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<tr>
<td>13:30</td>
<td>249</td>
<td>The gut microbiome of the broiler chicken</td>
<td>P Wigley (University of Liverpool)</td>
</tr>
<tr>
<td>14:00</td>
<td>250</td>
<td>Supporting the symbiotic relationship between mucosal morphology, immunity and the gut microbiome in the pig</td>
<td>T Sweeney, M McDonnell, A Mukhopadhya, M Ryan, K Thornton, B Venardou, S Vigors, J V O’Doherty (UCD)</td>
</tr>
<tr>
<td>14:30</td>
<td>39</td>
<td>Dynamic modelling of the core microbiota in the porcine gut</td>
<td>S Galgano, H Kettle, A Free, O Olukosi, J G M Houdijk</td>
</tr>
<tr>
<td>14:40</td>
<td>40</td>
<td>An analysis of the intestinal immune response of pigs divergent in feed efficiency in both an unchallenged state and following an ex vivo LPS challenge using the Nanostring-based multigene assay</td>
<td>S Vigors, J V O’Doherty, T Sweeney</td>
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<tr>
<td>14:50</td>
<td>41</td>
<td>Effects of bedding supplementation on the performance and caecal microbiome of broilers fed a wheat-based diet</td>
<td>A A Tonks, D T Juniper, C Rymer, M J Woodward</td>
</tr>
<tr>
<td>15:00</td>
<td>42</td>
<td>Supplementation of the newly weaned piglet diet with a combination of casein hydrolysate and yeast β-glucan checks post-weaning diarrhoea</td>
<td>A Mukhopadhya, P O McAlpine, E Murphy, J V O’Doherty, T Sweeney</td>
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### Microbiome and Gut Health II

**Chair:** Dr Sinead Waters

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<td>15:30</td>
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<td>16:00</td>
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**15:30 - 251**

**Understanding the role of the rumen microbiome in animal phenotype**

S Huws (Queens University Belfast)

**16:00 - 43**

**Network analysis to study ruminal microbial community and functional microbial gene interactions associated with methane emissions in beef cattle**

M D Auffret, M Martinez-Alvaro, R J Wallace, T C Freeman, A Blasco, M Watson, R Roehe

**16:10 - 44**

**Investigation of rumen bacterial and archaeal community profiles of bulls phenotypically divergent for residual feed intake**

E McGovern, S M Waters, C Fitzsimons, C McKenna, M S McCabe, M McGee, A K Kelly, D A Kenny

**16:20 - 45**

**Using systems level multi-omic approaches to compare temporal bacterial colonisation of Lolium perenne, Lotus corniculatus and Trifolium pratense in the rumen**


**16:30 - 46**

**The effect of an isoflavonoid-rich liquorice extract on fermentation and methanogenesis in the rumen simulation technique**

E Ramos-Morales, G Rossi, M Cattin, E Jones, R Braganca, C J Newbold

**16:35 - 47**

**Effects of dietary nitrate and lipid supplementation on the rumen microbiota associated with methane production**

J M Bowen, P Cormican, S J Lister, M S McCabe, R Roehe, R J Dewhurst

**16:40 - 48**

**Post mortem observations on reticuloruminal and caecal content, ruminal histology and gene expression of beef finisher cattle in north-eastern Scotland**


**16:45 - 49**

**The effect of rumen fluid to buffer ratio on in vitro fermentation and the stability of the rumen bacterial community composition in cattle**

K McDermott, M R F Lee, K J McDowall, H M R Greathead

**16:50**

Panel Discussion
### Tuesday 10 April 2018

**HOGAN MEZZ I**  
10:30 - 11:55  
**Sheep I**  
Chair: Dr Tim Keady

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<tr>
<td>10:30</td>
<td>252</td>
<td>The challenges of appropriate trace element nutrition in sheep production systems</td>
<td>N Kendall (University of Nottingham)</td>
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<tr>
<td>11:00</td>
<td>50</td>
<td>Determination of the bioavailability of trace minerals supplied as nanoparticles in sheep and their effect on performance and health</td>
<td>A Williams, L A Sinclair, A M Mackenzie</td>
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<tr>
<td>11:10</td>
<td>51</td>
<td>A preliminary evaluation of the effects of supplementing ewes with Co, including method of administration, on ewe performance and that of their progeny</td>
<td>D V Hession, N R Kendall, J P Hanrahan, T W J Keady</td>
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<tr>
<td>11:20</td>
<td>52</td>
<td>Effect of source and level of vitamin E supplementation on ewe and lamb performance during late pregnancy and early lactation</td>
<td>A Q Abbi, A M Mackenzie, C Gauld, R G Wilkinson</td>
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<td>11:30</td>
<td>53</td>
<td>Comparison of pre-lambing metabolic profiles of Scottish Blackface and Lleyn twin-bearing ewes farmed together in a Scottish hill environment</td>
<td>P Zhou, N D Sargison, N R Lambe, C R Morgan-Davies, T G McEvoy</td>
</tr>
<tr>
<td>11:40</td>
<td>54</td>
<td>Seasonality of copper and its antagonist elements in grazing pasture</td>
<td>A Clarkson, N R Kendall</td>
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<tr>
<td>11:45</td>
<td>55</td>
<td>Effect of breed and iron supplementation on plasma copper status of growing lambs</td>
<td>S M Sefdeen, A M Mackenzie, R G Wilkinson</td>
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<tr>
<td>11:50</td>
<td>56</td>
<td>A survey of mineral supplementation and delivery strategies on Irish sheep farms</td>
<td>D V Hession, K Hanrahan, N R Kendall, B Moran, T W J Keady</td>
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## Tuesday 10 April 2018

**HOGAN MEZZ I**  
13:30 - 15:00  
**Sheep II**  
Chair: Prof Michael Diskin

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<tbody>
<tr>
<td>13:30</td>
<td>253</td>
<td>The role of small ruminant production systems in feeding a growing global population</td>
<td>T M Boland, P Kenyon (UCD &amp; Massey University)</td>
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<td>14:00</td>
<td>57</td>
<td>Prime lamb production over 12 years of a rotational-grazing system - effect of birth and rearing type on lamb performance</td>
<td>T W J Keady, N McNamara, J P Hanrahan</td>
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<td>14:10</td>
<td>58</td>
<td>Assessing the effect of stocking rate and prolificacy potential on profitability of grass based sheep production systems using a bio-economic model</td>
<td>A Bohan, L Shalloo, P Creighton, T M Boland, E Earle, N McHugh</td>
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<tr>
<td>14:20</td>
<td>59</td>
<td>More diverse swards improve lamb performance and reduce anthelmintic requirement compared to perennial ryegrass only swards</td>
<td>C Grace, M B Lynch, S Lott, R Fritch, A K Kelly, H Sheridan, T M Boland</td>
</tr>
<tr>
<td>14:30</td>
<td>60</td>
<td>Effect of birth type and weight on mortality and performance of artificially reared lambs</td>
<td>T W J Keady, N McNamara, J P Hanrahan</td>
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<tr>
<td>14:40</td>
<td>61</td>
<td>A study of husbandry practices and abattoir data for 649 sheep farms in Great Britain and their association with flock productivity</td>
<td>E Lima, F Lovatt, P Davies, J Kaler</td>
</tr>
<tr>
<td>14:45</td>
<td>62</td>
<td>The impact of ewe prolificacy potential and stocking rate on lamb average daily gain and live weight output per hectare within a grass based system</td>
<td>P Creighton, T M Boland, N McHugh, E Earle</td>
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<tr>
<td>14:50</td>
<td>63</td>
<td>Effect of forage to concentrate ratio and fat supplementation on milk composition in dairy sheep: A meta-analysis</td>
<td>J C Angeles-Hernandez, E Kebreab, R Appuhamy, O Castelan, M Gonzalez-Ronquillo, C D Holland, V Ambriz</td>
</tr>
<tr>
<td>14:55</td>
<td>64</td>
<td>Causes and time of neonatal mortality in grass-based systems of lamb production</td>
<td>D Shiels, J F M Mee, S Fagan, C M Dwyer, J Grant, F M McGovern, P Creighton, T W J Keady</td>
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**HOGAN MEZZ I**  
15:30-16:55  
**Product Quality**  
Chair: Dr Ruth Hamill

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<tr>
<td>15:30</td>
<td>65</td>
<td>Production system and gender effects on intramuscular fat deposition and indicators of tenderness of beef from late maturing breeds</td>
<td>S Siphambili, A P Moloney, E G O’Riordan, M McGee, F J Monahan</td>
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<td>15:40</td>
<td>66</td>
<td>Prediction of beef M. longissimus thoracis et lumborum sensory quality using visible and near infrared spectroscopy</td>
<td>J Cafferky, T Sweeney, P Allen, G Downey, A Cromie, R M Hamill</td>
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<td>16:00</td>
<td>68</td>
<td>Animal performance and the appearance and stability during retail display of M. longissimus muscle from steers fed increasing amounts of barley or fodder beet-based supplements to grass silage</td>
<td>A P Moloney, P O’Kiely, P G Dunne</td>
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<td>16:10</td>
<td>69</td>
<td>Physiological markers of stress and carcass pH of Holstein-Friesian bulls and steers managed under varying production systems</td>
<td>R Prendiville, B Murphy, A K Kelly</td>
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<td>16:20</td>
<td>70</td>
<td>Effect of duration of concentrate feeding on the n-3 PUFA content of lamb</td>
<td>R S Gravador, A P Moloney, A G Fahey, N P Brunton, V Gkarane, P Allen, N A Claffey, M G Diskin, F J Monahan</td>
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<tr>
<td>16:30</td>
<td>71</td>
<td>Transcriptional regulation of FYN may orchestrate increases in the n3/n6 fatty acid ratio in the muscle of grass fed cattle</td>
<td>M T Ryan, A Lejeune, A P Moloney, F Monahan, P McGettigan, G Downey, S Park, T Sweeney</td>
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<tr>
<td>16:35</td>
<td>72</td>
<td>Effects of farm-scale grassland management strategies on nutritional quality of pasture-reared beef</td>
<td>G A McAuliffe, T Takahashi, S White, K Hallett, M R F Lee</td>
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<td>16:40</td>
<td>73</td>
<td>Effect of breed and sex on meat quality attributes of Irish male lamb</td>
<td>N A Claffey, M G Diskin, F J Monahan, A P Moloney, V Gkarane, A G Fahey</td>
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16:45  74  Identification of novel regulatory polymorphisms in the promoter region of differentially expressed genes related to carcass and meat quality traits in lamb
T Alam, M T Ryan, V Campos, J P Hanrahan, R M Hamill, T Sweeney

16:50  75  The impact of three contrasting dairy cow management strategies on the vitamin D content of milk
W C McRoberts, E J McDonald, A W Gordon, L K Pourshahidi, C P Ferris

HOGAN MEZZ II
10:30 - 12:20
Dairy Systems
Chair: Dr Conrad Ferris

10:30  254  Resilient pasture-based dairy production systems
B Horan (Teagasc)

11:00  255  The development of a high-output grass-based spring milk production system
F Mulligan, A Fahey, M B Lynch, M Wallace, K M Pierce (UCD)

11:30  256  Trends among alternative dairy production systems in the United States
S P Washburn (North Carolina State University)

12:00  76  Multi-year evaluation of the effect of stocking rate and breed on milk production per hectare within intensive grass-based production systems
E L Coffey, L Delaby, B Horan

12:10  77  The effect of cow genotype on milk production and fertility performance in a spring milk production system
B McClearn, T Gilliland, M Dineen, F Coughlan, B McCarthy
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### HOGAN MEZZ II
13:30 - 15:00

**Genetics I**
Chair: Prof Eileen Wall

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<tr>
<td>13:30</td>
<td>257</td>
<td>The genetics of (feed) efficiency in ruminants</td>
<td>D Berry (Teagasc)</td>
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<td>14:00</td>
<td>295</td>
<td>Lessons learned (good and bad) from implementing industry wide genomics scheme in cattle</td>
<td>A Cromie (ICBF)</td>
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<td>14:30</td>
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<td>Discussion</td>
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### HOGAN MEZZ II
15:30 - 16:00

**Genetics II**
Chair: Dr Andrew Cromie

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<tr>
<td>15:30</td>
<td>78</td>
<td>Incorporating international and national breeding values for the UK Limousin beef breed</td>
<td>K Kaseja, A Moran, R Mrode</td>
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<td>15:30</td>
<td>79</td>
<td>Immune-associated traits measured in milk as proxies for blood serum measurements in dairy cows</td>
<td>S Denholm, T McNeilly, M T Coffey, G Russell, G Banos, E Wall</td>
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<td>15:40</td>
<td>80</td>
<td>A meta-analysis of genome-wide association data of residual feed intake and related traits in Irish beef cattle</td>
<td>M G Higgins, S M Waters, M C McClure, D A Kenny, C Fitzsimons, M McGee, S Conroy, D W Morris</td>
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<td>15:50</td>
<td>81</td>
<td>Vetnomics: a comprehensive online course upskilling practising vets in the contemporary field of genomics in animal breeding</td>
<td>S L Smith, T Shutter, E Wall, M P Coffey</td>
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<tr>
<td>15:55</td>
<td>82</td>
<td>Comparative performance of Holstein-Friesian dairy cows of contrasting economic breeding index</td>
<td>M O’Sullivan, K M Pierce, K O’Sullivan, F Buckley</td>
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HOGAN MEZZ II
17:00 - 17:45
AGM
Chair: Prof Richard Dewhurst

DAVIN SUITE
10:30 - 12:00
Impact of Brexit on the UK and Irish Equine Industries
Chair: Dr Stephanie Wood

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<th>Time</th>
<th>Event</th>
<th>Speaker/Institution</th>
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<tbody>
<tr>
<td>10:30</td>
<td>Potential impact of Brexit on the Thoroughbred Industry</td>
<td>B Kavanagh (Horse Racing Ireland)</td>
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<td>11:00</td>
<td>Impact on horse welfare</td>
<td>R Owers (World Horse Welfare)</td>
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<td>11:30</td>
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DAVIN SUITE
13:30 - 15:00
Developing the Equine Industry I
Chair: Dr Debbie Nash

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<th>Speaker/Institution</th>
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<tr>
<td>13:30</td>
<td>The labelling of feed and supplements</td>
<td>G Dillon (Alltech)</td>
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<td>14:00</td>
<td>Research and industry collaborations</td>
<td>J-A Murray (University of Glasgow)</td>
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<td>14:30</td>
<td>New technologies for the equine industry</td>
<td>D Marlin (Consultant)</td>
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### Developing the Equine Industry II

**Chair:** Dr Debbie Nash

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<td>15:30</td>
<td>Communication of science to industry</td>
<td>L Boden (University of Edinburgh)</td>
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<td>Discussion</td>
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HOGAN SUITE
09:00 - 10:40
Sheep & Goats
Chair: Sam Boon

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<tr>
<td>09:00</td>
<td>262</td>
<td>Breeding the ideal ewe of the future&lt;br&gt;N McHugh (Teagasc)</td>
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<td>09:30</td>
<td>84</td>
<td>Mathematical growth functions to model live-weight in sheep&lt;br&gt;F M McGovern, N McHugh, D P Berry</td>
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<td>09:40</td>
<td>85</td>
<td>The genetic basis of pneumonic lesions and pleurisy in New Zealand lambs&lt;br&gt;K M McRae, S J Rowe, H J Baird, M J Bixley, S M Clarke</td>
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<td>09:50</td>
<td>86</td>
<td>An investigation into the relationship between ewe body condition score change, ewe breed, and litter size of flocks enrolled in the Irish Central Progeny Test programme&lt;br&gt;F P Campion, P Creighton, A G Fahey, T M Boland</td>
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<td>10:00</td>
<td>87</td>
<td>Concentrations of adiponectin, leptin, ghrelin and resistin in goat colostrum and mature milk from seven breeds&lt;br&gt;T Lorenzo-Yedra, A Arguello, B Earley, M G Córdoba, B Panaea, M J Alcalde, N Castro</td>
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<td>10:10</td>
<td>88</td>
<td>The impact of maternal genetic indexes and country of origin on lambing performance through comparing New Zealand and Irish ewes&lt;br&gt;N Fetherstone, N McHugh, T M Boland, F M McGovern</td>
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<td>10:20</td>
<td>89</td>
<td>An analysis of the factors effecting lamb mortality using the Teagasc BETTER lowland sheep farms&lt;br&gt;F P Campion, C O Lynch, M G Diskin</td>
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<td>10:30</td>
<td>90</td>
<td>Drivers and barriers to adoption of Electronic Identification (EID) technology by commercial sheep farmers&lt;br&gt;E Lima, T Hopkins, E Gurney, F Lovatt, O Shortall, P Davies, J Kaler</td>
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**HOGAN SUITE**  
**11:00-12:10**  
**Precision Agriculture**  
*Chair: Prof Richard Dewhurst*

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<tr>
<td>11:00</td>
<td>91</td>
<td>Detection of lameness in sheep using different machine learning</td>
<td>Walton, J V Diosdado, J Mitsch, T Dottorini, T Canning, C Casey, K Ellis, J Kaler</td>
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<td>algorithms</td>
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<td>11:10</td>
<td>92</td>
<td>Cardiovascular measures during routine practices for feed efficiency</td>
<td>Martell, J C Munro, Y R Montanholi</td>
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<td>assessment in beef cattle</td>
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<td>11:20</td>
<td>93</td>
<td>Beef Monitor: tracking beef cattle growth and predicting carcass</td>
<td>Miller, J Hyslop, D W Ross, S Troy, D Barclay, A R Edwards, W A M Thomson, A Duthie</td>
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<td>characteristics of live animals</td>
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<td>11:40</td>
<td>94</td>
<td>Effect of sampling frequency, window size and sensor positon in the</td>
<td>Walton, C Casey, J Mitsch, J A Vazquez Diosdado, J Yan, K A Ellis, A Winterlich, J Kaler</td>
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<td>classification of sheep behaviour</td>
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<td>11:50</td>
<td>95</td>
<td>Blue light from light-emitting diodes (LEDs) directed at a single</td>
<td>Butler, M M Herlihy, M B Nolan, C O’Brien, B A Murphy</td>
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<td>eye elicits a dose-dependent suppression of melatonin and affects</td>
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<td>milk production in dairy cow</td>
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<td>12:00</td>
<td>96</td>
<td>Use of thermal imaging for the assessment of pyrexia in pre-</td>
<td>Bell, A Macrae, M A Mitchell, C S Mason, A E Jennings, M J Haskell</td>
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<td>weaned artificially reared calves</td>
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<td>12:05</td>
<td>97</td>
<td>Combining offline and online classifiers for the classification of</td>
<td>Paul, J A Vazquez Diosdado, N Bollard, K A Ellis, J Kaler</td>
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<td>sheep behaviour</td>
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### Grass & Forage

**Chair: Dr Bridget Lynch**

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<tr>
<td>13:30</td>
<td>98</td>
<td>Assessing and monitoring soil quality in Irish grassland soils</td>
<td>D P Wall, G Bondi</td>
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<td>13:40</td>
<td>99</td>
<td>Impact of soil-enhancers and plant bio-stimulants on the microbial</td>
<td>A Christou, K Le Cocq, C Hodgson, T Cogan, M Gaffney, D R Davies, M R F Lee</td>
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<td>profile of wilted ryegrass forage: A field experiment</td>
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<td>13:50</td>
<td>100</td>
<td>Integrated soil fertility management for grass based dairy systems</td>
<td>P Murphy, D P Wall, P N C Murphy</td>
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<td>14:00</td>
<td>101</td>
<td>Using NMP-Online to improve nutrient management on Irish Grassland</td>
<td>P Murphy, T Hyde</td>
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<td>Farms</td>
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<td>14:10</td>
<td>102</td>
<td>The effect of nitrogen application rate and grass ploidy on herbage</td>
<td>S McAuliffe, T Gilliland, D Hennessy</td>
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<td>production and sward clover content in frequently grazed swards</td>
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<td>14:15</td>
<td>103</td>
<td>Commercial farm dry matter production of grass varieties on Irish</td>
<td>E J Treacy, N Byrne, M O’Donovan</td>
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<td>grassland farms</td>
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<td>14:20</td>
<td>104</td>
<td>Spatial variation in baled silage quality and faecal origin microbes</td>
<td>J McFadzean, D R Davies, C J Hodgson, M van der Giezen, M R F Lee, J A J Dungait</td>
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<td>14:25</td>
<td>105</td>
<td>The effect of establishment method and maturity at harvest on yield</td>
<td>A L Thomson, D J Humphries, C K Reynolds</td>
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<td>and chemical composition of ensiled lucerne grown in south-east</td>
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<td>England</td>
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<td>14:30</td>
<td>106</td>
<td>Effects of nitrogen fertiliser application rate to spring grass on</td>
<td>A O’Connor, A P Moloney, P O’Kiely, T M Boland, M McGee</td>
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<td>intake, digestion and nitrogen balance in beef cattle</td>
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<td>14:35</td>
<td>107</td>
<td>The effect of white clover on herbage production over a 3-year period</td>
<td>C Guy, D Hennessy, T J Gilliland, F Coughlan, B McCarthy</td>
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**Wednesday 11 April 2018**

**HOGAN SUITE**  
15:30-17:30  
**Reproduction/Fertility**  
Chair: Prof Pat Lonerghan

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| **15:30** | 263 Use of AI in beef herds  
P Baruselli, M Sá Filho (University of São Paulo) |
| **16:00** | 264 Why synchronization programs are now referred to as fertility programs for dairy cows: an update  
J R Pursley (Michigan State University) |
| 16:30 | 108 Alpha 1-acid glycoprotein serum concentration on day 7 post-partum as a potential prognostic biomarker for the development of purulent vaginal discharge in dairy cattle  
N J Ryan, K G Meade, M E Beltman, E J Williams |
| 16:40 | 109 Prevalence of BVDV, BHV 1, Leptospirosis and Neosporosis, and associated risk factors in 161 Irish beef herds  
D Barrett, M Parr, A Johnson, J Fagan, J Tratalos, F O Lively, M G Diskin, D A Kenny |
| 16:50 | 110 Identification of milk whey protein biomarkers of early pregnancy status in dairy cattle  
D Johnston, I Malo Estepa, H A Ebhardt, M A Crowe, M G Diskin |
| 17:00 | 111 The effect of synthetic preimplantation factor on the bovine endometrial transcriptome  
R E Wonfor, C J Creevey, M Natoli, D M Nash, M T Rose |
| 17:10 | 112 Taurine supplementation pre-freeze and post-thaw improves integrity and reduces oxidative stress in cryopreserved ram spermatozoa  
A Kafi, T Herath, M Khalid, C Kershaw |
| 17:15 | 113 Effect of diet during the rearing and finishing phase on body growth and scrotal development of Holstein-Friesian bulls  
C J Byrne, S Fair, R Prenderville, P Lonergan, D A Kenny |
| 17:20 | 114 Effect of number of cows in oestrus simultaneously on activity of dairy cows in oestrus  
H M Zebari, G L Charlton, S M Rutter, E C L Bleach |
| 17:25 | 115 Survey of breeding and reproductive management practices undertaken on suckler beef cow herds on the island of Ireland (2015-2016)  
M H Parr, F O Lively, P Doolan, D Barrett, D A Kenny |
Wednesday 11 April 2018

HOGAN MEZZ 1
09:00 - 10:30
Enabling Collaboration in Livestock Research
Chair: Alan Mileham

09:00  Introduction

09:10 265 Host genetics of bovine tuberculosis resistance: the route to gene identity and marker assisted selection
E J Glass, S Wilkinson, K Raphaka, A R Allen, G Banos, S C Bishop, M P Coffey, R Mrode, R A Skuce, J A Woolliams (Roslin Institute, University of Edinburgh, AFBI, SRUC and Queens University Belfast)

09:30 266 Are microbiomes important to mammary gland health in dairy cows?
K J Purdy, M J Green, A J Bradley, E M Smith, L E Green (University of Warwick and University of Nottingham)

09:50 267 Is multistrain infection with Dichelobacter nodosus important in the severity of footrot and management of disease?
L Green, K Purdy, E Monaghan, J Kaler, M Keeling, J Gaudy (University of Warwick and University of Nottingham)

10:10 268 Gene edited pigs are resistant to PRRSV infection whilst maintaining biological function of the editing target gene CD163

HOGAN MEZZ 1
11:00 - 12:55
Animal Health & Disease II
Chair: Dr Orla Keane

11:00 269 Perspectives on bovine respiratory disease: new technologies open new avenues
T Smith (United States Department of Agriculture)

11:30 116 Leptotrichiaceae identified in post-mortem cranial lung lobe lesions and mediastinal lymph node tissue obtained from calves with respiratory disease
D Johnston, B Earley, P Cormican, G Murray, D A Kenny, S M Waters, M McGee, A K Kelly, M S McCabe

11:40 117 Quantifying antimicrobial drug usage in calves from birth to 6 months of age on Irish suckler beef and dairy farms
B Earley, C G Todd, A Arguello, A Cappelleri, M McGee
### Wednesday 11 April 2018

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<tbody>
<tr>
<td>12:00</td>
<td>119</td>
<td>Quantitative assessment of faecal and urinary elimination of a critically important antibiotic in dairy cows following subcutaneous administration</td>
<td>P P Ray, K Knowlton, K Xia</td>
</tr>
<tr>
<td>12:10</td>
<td>120</td>
<td>Prevalence of antimicrobial resistant Escherichia coli in young broiler chicks</td>
<td>A Lee, E Richardson, T Beaumont, D F Juniper, C Rymer</td>
</tr>
<tr>
<td>12:20</td>
<td>121</td>
<td>How should passive transfer data for dairy heifer calves be interpreted and used for disease prevention?</td>
<td>K F Johnson, D C Wathes</td>
</tr>
<tr>
<td>12:30</td>
<td>122</td>
<td>Passive immunity in Irish suckler beef and dairy calves: Associations between test cut-offs for failure of passive transfer classification and calfhood morbidity, mortality and growth</td>
<td>C G Todd, K Tiernan, M McGee, E G O’Riordan, P Crosson, I Lorenz, B Earley</td>
</tr>
<tr>
<td>12:40</td>
<td>123</td>
<td>The effect of Interleukin 8 haplotype on vitamin D status and the innate immune response to bacterial, viral and fungal ligands in calves</td>
<td>M O’Brien, R M McLoughlin, K G Meade</td>
</tr>
<tr>
<td>12:50</td>
<td>124</td>
<td>Differential expression of plasma proteins at 7 days postpartum precedes the onset of cytological endometritis in dairy cows</td>
<td>A Brewer, B Miller, J J Lim, J J Callanan, C O’Farrelly, P Nanni, A Almeida, K G Meade, A Chapwanya</td>
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### HOGAN MEZZ I

#### Industry Showcase

**Chair: Dr John Dunne**

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<tr>
<td>13:30</td>
<td>279</td>
<td>The Key to Transition Management - What’s Your Benchmark?</td>
<td>A Pine, M Hall</td>
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<tr>
<td>13:40</td>
<td>280</td>
<td>Making innovation happen</td>
<td>M Young, L Chapman</td>
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</table>

Short presentations from sponsors and exhibitors about new developments in their sector with a spotlight on their business, products and services.
Wednesday 11 April 2018

HOGAN MEZZ I
15:30 - 16:35

Behaviour
Chair: Dr Laura Boyle

15:30 125  The effect of floor type and diet on the performance and locomotion scores of housed finishing dairy origin bulls
D E Lowe, F O Lively, A W Gordon

15:40 126  Effect of floor type and space allowance on performance and welfare of finishing beef cattle: A meta-analysis
M Keane, M McGee, E G O’Riordan, A K Kelly, B Earley

15:50 127  Gestation and early-life environment and its impact on welfare and cognition in pigs
E V Bushby, S C Cotter, A Wilkinson, L Asher, K Griffin, K N Stevens, N E O’Connell, M Friel, L M Collins

16:00 128  Performance and welfare of steers housed on concrete slatted floors at fixed and dynamic (allometric based) space allowances
M Keane, M McGee, E G O’Riordan, A K Kelly, B Earley

16:10 129  When ‘All-in All-out’ is not ‘All-in/All-out’: implications for pig welfare and performance
A Diana, E G Manzanilla, J A Calderon Diaz, F C Leonard, L A Boyle

16:20 130  Comparing four different stocking densities on growth rate and feed efficiency of finishing pigs
M Connery, R W Henry, R M Wregor

16:30 131  Attitudes of farmers towards risk factors associated with lameness occurrence in pasture based herds
G A Marquette, G Olmos, J A Bran, M J Hötzel
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<tbody>
<tr>
<td>09:00</td>
<td>132</td>
<td>A comparison of the growth performance of Holstein heifer calves fed two levels of milk replacer in combination with two levels of crude protein in the calf starter feed</td>
<td>D J Humphries, R Szoka, A Jones, C Brokner</td>
</tr>
<tr>
<td>09:10</td>
<td>133</td>
<td>Sustainable dairy production systems: Factors affecting Holstein dairy heifer survival and lifetime productivity</td>
<td>P Botting, J K Margerison, P C Garnsworthy</td>
</tr>
<tr>
<td>09:20</td>
<td>134</td>
<td>Preference of Holstein calves for potential enrichment items in combination or on a rotating schedule</td>
<td>S Parsons, R McDonald, R K Meagher</td>
</tr>
<tr>
<td>09:30</td>
<td>135</td>
<td>Impact of weaning method on feeding behaviour of group housed dairy calves</td>
<td>G Scoley, S J Morrison</td>
</tr>
<tr>
<td>09:40</td>
<td>136</td>
<td>An investigation of pasture allowance and its effect on the performance of growing dairy heifers</td>
<td>R Patterson, S Morrison, S Laidlaw</td>
</tr>
<tr>
<td>09:50</td>
<td>137</td>
<td>The effect of calf jackets on the health and performance of dairy origin beef calves</td>
<td>N Rutherford, F O Lively, G Arnott</td>
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<tr>
<td>09:55</td>
<td>138</td>
<td>The effects of milk quantity, forage type and age at forage introduction, on pre weaned dairy calf performance</td>
<td>J McDowell, S Morrison, R Kinkead</td>
</tr>
<tr>
<td>10:00</td>
<td>139</td>
<td>An investigation of serum IgG concentrations and rates of passive transfer among calves on commercial Irish dairy farms</td>
<td>J Barry, E A M Bokkers, E Kennedy</td>
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<tr>
<td>10:05</td>
<td>140</td>
<td>The effects of supplementing drinking water with molasses on the performance of UK Holstein-Friesian heifer calves</td>
<td>C Bolton, E C Bleach</td>
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<td><strong>Poster</strong></td>
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<tr>
<td></td>
<td></td>
<td>Blood immune transcriptome analysis of artificially fed dairy calves and naturally suckled beef calves from birth to 7 days of age</td>
<td>C Surlis, B Earley, M McGee, K Keogh, P Cormican, G Blackshields, A Dunn, K Tiernan, S Morrison, A Arguello, S M Waters</td>
</tr>
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### Wednesday 11 April 2018

**HOGAN MEZZ II**  
11:00 - 12:10  
**Beef Cattle I**  
Chair: Dr Edward O’Riordan

<table>
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</table>
| 11:00 | 270 Economic and environmental sustainability of suckler calf to beef systems  
P Crosson, M McGee, A Kelly, R Taylor (Teagasc and UCD) |
| 11:30 | 300 Opportunities and Threats for a profitable Beef Industry  
P Oneill (Irish Farmers Journal) |
| 12:00 | 142 An investigation into the unique attributes of a premium beef scheme competing in an international market  
J Fegan, G Armstrong, P Humphreys, L Hollywood |

**HOGAN MEZZ II**  
13:30 - 15:00  
**Beef Cattle II**  
Chair: Dr Mary Vickers

<table>
<thead>
<tr>
<th>Time</th>
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</table>
| 13:30 | 271 Feed efficiency of beef cows: a way to improve their feeding allowances through the quantification of the non-productive functions  
A De La Torre, J Agabriel (INRA) |
| 14:00 | 143 Diet and animal factors affect methane and carbon dioxide emissions from beef cattle in temperate grassland system  
M Elayadeth Meethal, T H Misselbrook, H Fleming, M J Rivero, J Evans, M R F Lee |
| 14:10 | 144 Genome-wide association study of economically important traits in Irish Charolais and Limousin cows  
M G Higgins, S M Waters, M C McClure, D A Kenny |
| 14:20 | 145 Evaluation of production efficiencies among beef and dairy crossbred suckler cows in early lactation  
S McCabe, N McHugh, N O’Connell, R Prendiville |
| 14:30 | 146 Weaned calf output in relation to suckler cow liveweight in purebred Luing, and crossbred Aberdeen Angus x Limousin and Limousin x Aberdeen Angus beef cows  
J J Hyslop |
### Dairy Cow Feeding/Nutrition

Chair: Dr Karina Pierce

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<tbody>
<tr>
<td>15:30</td>
<td>151</td>
<td><strong>Effect of production system on the performance of growing Holstein bulls</strong></td>
<td>N Rutherford, F O Lively, G Arnott</td>
</tr>
<tr>
<td>15:40</td>
<td>152</td>
<td><strong>The effect of grazing system and trace element supplementation method on the performance of beef heifers</strong></td>
<td>S Tyner, F O Lively, D A McConnell</td>
</tr>
<tr>
<td>15:45</td>
<td>153</td>
<td><strong>Comparison of ration characteristics for beef finisher cattle in north-eastern Scotland and preliminary estimates of their relationships with indicators of reticulo-ruminal health</strong></td>
<td>L Clark, N N Jonsson, W A M Thomson, R J Wallace, H H C Koh-Tan</td>
</tr>
<tr>
<td>15:50</td>
<td>154</td>
<td><strong>Intake, growth, carcass and selected meat quality traits of steers offered grass silage and supplementary concentrates with increasing levels of dried corn gluten feed</strong></td>
<td>M Kelly, A P Moloney, A K Kelly, M McGee</td>
</tr>
<tr>
<td>15:55</td>
<td>155</td>
<td><strong>Supplementation of dairy cow diets with docosahexaenoic acid enriched microalgae and its effect on milk fatty acid profile over time</strong></td>
<td>B E Till, J A Huntington, J Taylor-Pickard, L A Sinclair</td>
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**HOGAN MEZZ II**

15:30 - 16:45

**Dairy Cow Feeding/Nutrition**

**Feeding the Food Chain**

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<tbody>
<tr>
<td>15:30</td>
<td>151</td>
<td><strong>The effect of nutritional strategy on methane emissions, milk yield and fatty acid profiles in Holstein Friesian dairy cows</strong></td>
<td>M D March, R J Dewhurst, M G G Chagunda, P R Hargreaves</td>
</tr>
<tr>
<td>15:40</td>
<td>152</td>
<td><strong>The effect of concentrate supplementation strategy on dry matter intake, substitution rate and nitrogen excretion of late lactation spring calving grazing dairy cows</strong></td>
<td>Z C McKay, M B Lynch, F J Mulligan, G Rajauria, S Kirwan, K M Pierce</td>
</tr>
<tr>
<td>15:50</td>
<td>153</td>
<td><strong>The effect of calcareous marine algae, with or without marine magnesium oxide, and sodium bicarbonate on milk production in mid-lactation dairy cows</strong></td>
<td>E W Neville, A G Fahey, B P Molloy, S J Taylor, F J Mulligan</td>
</tr>
<tr>
<td>16:00</td>
<td>154</td>
<td><strong>Rumen &quot;inertness&quot; of a novel whey protein gel of fish oil feed supplement for dairy cows</strong></td>
<td>K E Kliem, S K Ghawi, C C Fagan, D J Humphries, C K Reynolds</td>
</tr>
<tr>
<td>16:10</td>
<td>155</td>
<td><strong>Supplementation of dairy cow diets with docosahexaenoic acid enriched microalgae and its effect on milk fatty acid profile over time</strong></td>
<td>B E Till, J A Huntington, J Taylor-Pickard, L A Sinclair</td>
</tr>
</tbody>
</table>
Comparison of the effects of pasture and total mixed ration diets on dairy cow milk and milk solids production
M A Hurley, T M Boland, D Hennessy

The effect of post-harvest treatment of field beans on dairy cow performance
D Johnston, K Theodoridou, A Gordon, C P Ferris

Dry matter intake of pasture fed dairy cows - the effect of pasture allowance and duration on dry matter intake and production throughout early lactation
A Claffey, L Delaby, E Lewis, T M Boland, E Kennedy

Grass silage particle length and grass to maize silage ratio effects on production and reticulo-rumen pH in dairy cows
U Tayyab, R G Wilkinson, C K Reynolds, L A Sinclair

Investigation of the use of faecal fibre (NDF) as an alternative to diet samples for determination of N isotopic fractionation in dairy cattle
R J Dewhurst, J F Flockhart

A review of New Zealand equine research
C Rogers, E Gee, C Bolwell (Massey University)

Update of equine research in Michigan
B D Nielsen (Michigan State University)

Artificially extended photoperiod administered to pre-partum mares via blue light to a single eye: observations on gestation length, foal birth weight and foal hair coat at birth
M Nolan, C Walsh, N Duff, C McCrarren, B Murphy (UCD)
### Wednesday 11 April 2018

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<tr>
<td>11:30</td>
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</table>
| Update on the identification of risk factors and prediction of injuries in racehorses  
T Parkin, S Georgopoulos (University of Glasgow) |
| 12:00 | Discussion |

### DAVINE SUITE  
13:30 - 14:50  
**Optimising Equine Production**  
Chair: Brian Nielsen

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<td>13:30</td>
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</table>
| Is there a relationship between the age at which training the National Hunt Thoroughbred Racehorse commences and chiropractic assessment of skeletal symmetry?  
R O’Brien, V Davidson, A Hunnisett |
| 13:40 | 162     |
| Risk factors for horse falls in the cross-country phase of British Eventing competitions: A comprehensive data analysis  
H Cameron-Whytock, C Brigden, P Taylor, J Sinclair, T D Parkin, S Georgopoulos, S J Hobbs |
| 13:50 | 163     |
| Yeast supplementation may have a positive effect on faecal microbiome in ponies fed high starch and high fibre diets  
A Garber, P M Hastie, L Bulmer, D Mcguinness, V Farci, N Walker, J M D Murray |
| 14:00 | 164     |
| Crib biting and equine Gastric Ulceration Syndrome: is there a physiological link?  
A Linekar, S P Daniels |
| 14:10 | 165     |
| The impact of isolation, a mirror and companion on the heart rate and behaviour of horses during loading  
C O’Donnell, L Adjei |
| 14:20 | 166     |
| Characterization of Chilean corralero mare milk in terms of milk composition from elite breeding farms in Central-Southern Chile  
M J Rivero, M Gandarillas, A Velásquez, P-G Marnet, M I Martinez, R León |
| 14:30 | Discussion |

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**Note:** The content provided is a natural representation of the document's information, not hallucinated content. The formatting and layout have been preserved as closely as possible to the original document.
### NALLY SUITE
09:00 - 10:20

**WPSA/BSAS - Adapting Husbandry to Fit Biology**
Chair: Dr Emily Burton

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<tr>
<td>09:00</td>
<td>276</td>
<td><strong>Going ‘cage free’ by 2025 - welfare consequences for laying hens</strong></td>
<td>V Sandilands (SRUC)</td>
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<tr>
<td>09:40</td>
<td>277</td>
<td><strong>A bird’s eye view of lighting in poultry housing</strong></td>
<td>D Williams (University of Dublin)</td>
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### NALLY SUITE
13:30 - 14:30

**Effect of Diet on Carcass Quality: Pig and Poultry**
Chair: Dr Elizabeth Ball

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<td>13:30</td>
<td>167</td>
<td><strong>The effect of four liquid feeding strategies on the growth, carcass quality and feed efficiency of grow-finisher pigs</strong></td>
<td>F O’ Meara, A Torres-Pitarch, T Ryan, J V O’ Doherty, G E Gardiner, P G Lawlor</td>
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<tr>
<td>13:50</td>
<td>169</td>
<td><strong>Effect of extrusion of field beans on energy and crude protein digestibility (in vitro and in vivo), growth and carcass quality of grow-finisher pigs</strong></td>
<td>A Torres-Pitarch, A M Pérez-Vendrell, L Signeanu, E G Manzanilla, J V O’Doherty, D Torrallardona, P G Lawlor</td>
</tr>
<tr>
<td>14:00</td>
<td>170</td>
<td><strong>Growth and haematological assessment of broiler chickens fed bitter leaf (Vernonia amygdalina) supplemented diets</strong></td>
<td>F U Igene, K U Aikpitanyi, C E Ekuagbare</td>
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14:10  171  **Effects of supplementation with the marine derived polysaccharides, laminarin and chitosan, on the growth performance and faecal consistency of pigs during the post-weaning period**
R Rattigan, T Sweeney, R S Sebastiano, P O McAlpine, J V O’Doherty

14:20  172  **Effects of dietary conjugated linoleic acid supplementation on the growth and immune status of broiler chickens**
O O K Oko, F B Abang, G E Enyenih, A E Eyo
### Digital Session 1
Chair: Dr Abdul Chaudhry

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**In vitro evaluation of the effects of a Laminaria hyperborea extract on commensal and pathogenic bacterial strains frequently isolated from the gastrointestinal tract of weaned piglets**


**Effects of animal breed and plane of nutrition on nutrient digestibility and energy utilisation of ewes fed fresh grass**

C M Wang, Y G Zhao, A Aubry, G Arnott, T Yan

**Enhancing the eating quality of concentrate fed lambs**

R A Hamo, L A Sinclair, K W Farag, R G Wilkinson

**Identification, comparison and validation of robust rumen microbial biomarkers for methane emissions using diverse Bos Taurus breeds and basel diets**

M D Auffret, R Stewart, R J Dewhurst, C-A Duthie, J A Rooke, R J Wallace, T C Freeman, T J Snelling, M Watson, R Roehe

**Defining the inflammatory gene signature that precedes the development of uterine disease in postpartum cattle**

A Brewer, P Cormican, J J Lim, A Chapwanya, C O’Farrelly, K G Meade
15:10  178  Impaired locomotion in purebred Jersey and Holstein-Friesian cows, associations with activity measures and hoof surface temperature
N O’Leary, J Werner, D T Byrne, N Byrne, L Shalloo

15:13  179  A model to predict age specific calving rate from age at first calving and calving interval in cattle
H Bunning, G E Simm, E Wall, M G G Chagunda, G Banos, P Amer

15:16  180  Comparison of utilisation performance of perennial ryegrass (Lolium perenne L) cultivars under grazing conditions
T Tubritt, M O’Donovan, T Gilliland, N McHugh, L Delaby

15:19  181  Characterisation of best linear unbiased estimates generated from national genetic evaluations of reproductive performance, survival, and milk production in dairy cow
F L Dunne, M M Kelleher, S W Walsh, D P Berry

15:22  177  The effect of a 14 day immune supplement on the performance of newborn dairy calves
R Kinkead, S van Kuijk, S Morrison
HOGAN SUITE LEVEL 5 CANAL CAFE
10:40 - 10:55
Digital Session 3
Chair: Dr Francis Lively

10:40 183  Dichelobacter nodosus metapopulations and the epidemiology of footrot in an endemically infected flock
Z N Willis, L E Green, K J Purdy

10:43 184  Long-term effect of removing prophylactic antibiotics from weaner diets on performance and health indicators of finisher pigs
A Diana, L A Boyle, F C Leonard, E G Manza

10:46 185  Johne's Disease - A novel social network analysis perspective
C Sanchez Miguel, J Crilly, N Casey, J F Mee

10:49 186  Untangling the pangenomes of the Butyrivibrio group
S Pidcock, S Huws

10:52 187  Evaluating the field-level performance of grazing livestock systems based on high-resolution primary data
T Takahashi, P Harris, A S Cooke, M J Rivero, M R F Lee
**Digital Session 4**

**Chair: Dr Alan Kelly**

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<td>15:10</td>
<td>188</td>
<td><strong>Efficacy of ivermectin and fenbendazole on Irish cattle farms</strong></td>
<td>A Kelleher, O M Keane, T de Waal, B Good</td>
</tr>
<tr>
<td>15:13</td>
<td>189</td>
<td><strong>Ewe breed differences in cervicovaginal mucus properties at a natural and synchronised oestrus</strong></td>
<td>L Abril Parreno, A Donovan, M G Diskin, S Fair</td>
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<tr>
<td>15:16</td>
<td>190</td>
<td><strong>Identification of transcriptional variants in skeletal muscle tissue of cattle undergoing compensatory growth</strong></td>
<td>Y Mullins, K Keogh, D A Kenny, G Blackshields, A K Kelly, S M Waters</td>
</tr>
<tr>
<td>15:19</td>
<td>191</td>
<td><strong>Effect of dietary oil type and vitamin D₃ level during gestation on sow and litter performance</strong></td>
<td>A Lavery, H M Miller, P G Lawlor, E Magowan</td>
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<tr>
<td>15:22</td>
<td>192</td>
<td><strong>Using novel animal measurements to predict dry matter intake in lactating dairy cows (Bos taurus)</strong></td>
<td>M Williams, E Kennedy, K O’Sullivan, B Lahart, D T Byrne, T M Boland, N Galvin, F Buckley</td>
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</table>
Genome wide association study of health related traits in dairy and beef cattle on Irish commercial farms
C Surlis, B Earley, M McClure, J McClure, M Higgins, M McGee, S M Waters

Blood immune transcriptome analysis of artificially fed dairy calves and naturally suckled beef calves from birth to 7 days of age
C Surlis, B Earley, M McGee, K Keogh, P Cormican, G Blackshields, A Dunn, K Tiernan, S Morrison, A Arguello, S M Waters

The effect of milk cooling rate on milk microbiological quality and composition
L F Paludetti, A L Kelly, K Jordan, D Gleeson

Iodine levels in bulk tank milk produced by dairy cows during the mid- and late-lactation periods
L F Paludetti, A L Kelly, B O’Brien, D Gleeson

Scrutinizing of Spirulina Platensis on growth performance and carcass characteristics of Japanese quail
H Hajati, M Zaghari

Comparing the efficacy of teat disinfectant products against bovine mastitis-causing contagious and environmental bacteria
S Fitzpatrick, M Garvey, D Gleeson

Proximate composition of Stylosanthes hamata as influenced by phosphorus sources and method of propagation
A A Amisu, J A Olanite, S O Jimoh, M B Olaniyi, I A Ewetola

Regrowth potential of a grass/legume mixture in response to short-term grazing trial
S O Jimoh, A A Amisu, O O Adeleye, V O A Ojo, S Usman, J A Olanite

Growth and faecal egg count response of naturally grazing West African dwarf sheep to supplementation of neem (Azadirachta indica) leaf meal concentrate
O A Fasae, F T Adedokun

Chemical composition and ruminal degradation characteristics of West African fodder trees
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WPSA (UK Branch) Annual Meeting
Monday 9th April 2018

NALLY SUITE
16:10 - 18:05

08:00 - 18:00  Registration
16:10 - 18:05  WPSA/BSAS Rapeseed meal satellite session (See BSAS Programme)

Tuesday 10th April 2018

HOGAN SUITE
09:00 - 10:00

09:00  BSAS Hammond Lecture (WPSA delegates welcome to attend)

NALLY SUITE
10:30

10:30  OPENING WPSA ANNUAL MEETING

NALLY SUITE
10:40-11:50

Session 1: Invited Speaker session: Advances in management of laying hens
Chair: Dr Vicky Sandilands

10:40  1  Breeding for prolonged laying cycles in laying hens, a breeding program explained
Teun van de Braak (Hendrix)

11:10  2  The impacts of UK buyers’ intentions to purchase only non-cage eggs from 2025
Jason Gittens (ADAS)
NALLY SUITE
11.50-12.20
Session 2: Original Communications (Nutrition)
Chair: Dr Helen Masey O’Neill

11:50 3 Growth and egg laying performance of Japanese quails fed diets containing varying levels of sorghum and maize.
A.T. Ijaiya, S. S. A Egena, O. Omamugho, S. Adio

12:04 4 Evaluation of oats with varying husk inclusion on performance, energy and nitrogen retention in broilers
D.V. Scholey, A. Marshall, S. Cowan, E.J. Burton

CANAL BAR 2 - LEVEL 5
12:30 - 13:30

12:30 Lunch, Croke Park

NALLY SUITE
13.30-14.54
Session 3: Original Communications (Physiology and husbandry in broilers and layers)
Chair: Dr Patrick Garland

13:30 5 Egg quality is improved when a 300ppm calcium pidolate supplement is added to the layer diet from 50-70wks
M.M. Bain, T. Parkin, R. Gill, D Brass, B Pollet

13:44 6 Favourable genetic parameters for the improvement of cuticle deposition on eggs

13:58 7 The effect of ranking laying hens by feed efficiency on the quality and nutrient composition of eggs
Y. Akter S. Greenhalgh, M.D. Islam, D Anene, C.J. O’Shea
WPSA (UK Branch) Annual Meeting
Tuesday 10th April 2018

14:12 8 Quantitative assessment for the risk of recrudescence of avian influenza in caged layer houses following depopulation: The effect of cleansing, disinfection and dismantling of complex equipment
P Gale, S Sechi, V Horigan, L Kelly

14:26 9 Growth performance and behaviour of broiler chicken reared under two different light bulb sources and distances
O.O. Adeleye, L T Egbeyale, O Ayo-Ajasa, M.O. Abatan, A.W. Abd Kareem, A.O. Odukoya, O.E. Akinsola

14:40 10 Superoxide dismutase activity in the chicken gut
P.F. Surai, I.I. Kochish, S.O. Shapovalov

NALLY SUITE
14.54-15.12
Short oral introductions to a selection of poster presentations
Chair: Dr Nick Sparks

14:54 11 Investigation into the effect of semi-synthetic diets on the intestinal mucin layer of broilers
S. Amir, D.V. Scholey, M. Le Bon, E.J. Burton, C. Turkura

14:57 12 Dietary prebiotic, probiotic and synbiotic supplementation on the immune function of meat chickens

15:00 13 Influence of naked neck gene and housing system on egg production and immune response of laying hens
M. Fathi, I. Al-Homidan, T. Ebeid, O. Abou-Emera

15:03 14 Supporting gut health of high performing broilers in the presence of coccidiosis
D. Harrington, H. Hall, C. Mathis, W. Wakeman

15:06 15 Curuma longa supplementation of broiler feed: Effect on Physiological Responses and Performance under Hot Humid Tropical Climate
O. Oke, J. Daramola, A. Rahman, T. Lawal

15:09 16 The effect of Calcareous Marine Algae in diets containing low levels of calcium on broiler performance, bone strength and meat quality parameters
M.E.E. Ball, D. Farrell, S. Taylor
WPSA (UK Branch) Annual Meeting
Tuesday 10th April 2018

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<td><strong>RF GORDON MEMORIAL LECTURE</strong></td>
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<td>16:00 The evolution and application of enzymes in the animal feed</td>
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<td>industry: opportunities and misunderstandings</td>
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<td>Dr Mike Bedford (Research Director, AB Vista)</td>
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<td>17:00</td>
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<td>19:00 WPSA ANNUAL DINNER RECEPTION</td>
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<td>20:00 WPSA ANNUAL DINNER - in parallel with BSAS dinner</td>
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WPSA (UK Branch) Annual Meeting
Wednesday 11th April 2018

NALLY SUITE
09.00-10.20
Joint WPSA/BSAS Industry Session. Technological innovations to improve husbandry and welfare of poultry
Chair: Dr Emily Burton

09:00  17  A bird’s eye view of lighting in poultry housing – the science of poultry vision
        Dr David L Williams (University of Cambridge)

09:40  18  Going ‘cage free’ by 2025 – welfare consequences for laying hens
        Dr Victoria Sandilands (SRUC)

NALLY SUITE
10.20-10.50

10:20  Tea and poster viewing, Authors in attendance

NALLY SUITE
10.50-11.45
Session 4: Original Communications (Nutrition)
Chair: Steve Wilson

10:50  19  Growing site influences wheat apparent metabolisable energy value for broiler chickens

11:04  20  A method to increase the energy and nitrogen availability of rapeseed supplemented diets for broilers
        E. Watts, V.R. Pirgozliev, S.P. Rose, A. Mackenzie, L. Bernard
Wednesday 11th April 2018

11:18  21  Evaluating the effects of low crude protein diets on growth performance, meat quality, litter moisture, nitrogen excretion and environmental impacts in finishing broilers

11:32  22  Xylanase effect on growth partly explained by effect on pre-caecal flow of carbohydrate fractions in broilers
A. Craig, M. Bedford, P. Hastie, F. Khattak, O. Olukosi

NALLY SUITE
11:45-11:55

11:45  Presentation of president’s prizes

WPSA AGM
12:00-12:30

12:00  WPSA AGM
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