EPIC SCOTLAND

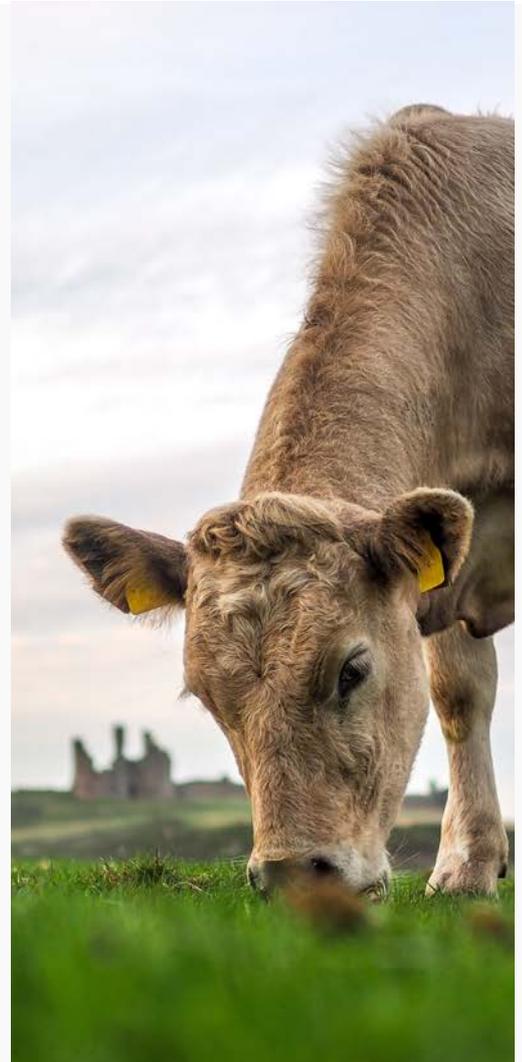## Centre of Expertise on Animal Disease Outbreaks

WELCOME TO EPIC III CONFERENCE 2017: COORDINATED INTERDISCIPLINARY (SCIENTIFIC) SUPPORT OF LIVESTOCK OUTBREAK RESPONSE

The first EPIC conference since 2015 sees our conference return to the John McIntyre Conference Centre, Pollock Halls in Edinburgh. The meeting will once again provide an opportunity for stakeholders, funders and EPIC scientists to share research and ideas over two days.

The theme of the 2017 meeting aims to explore the challenges and benefits of coordinating interdisciplinary response to disease outbreaks of livestock. Although EPIC is regarded as a key exponent of interdisciplinary research at the science policy interface in Scotland, here we continue to explore the subject. To this end the conference has invited speakers from across the UK to share their experience, including those from different but related fields.

The conference programme also takes time out to visit the Scottish Parliament. The evening reception will be hosted by Graeme Dey MSP, providing scientists with insight as to where some of their research ends up.

Contents

INTRODUCING EPIC

EPIC (Epidemiology, Population health and Infectious disease Control) is an ambitious animal heath consortium project funded by Scottish Government

EPIC is the Centre of Expertise on Animal Disease Outbreaks, bringing together Scottish-based expertise under one umbrella to best prepare Scotland's livestock industry and stakeholders for disease outbreaks.

The consortium involves 6 Scottish research institutions and some 40 researchers and support staff working either full or part-time on the project. EPIC's multidisciplinary team include veterinary scientists, mathematical modellers, environment scientists, social scientists and economists working together ensuring disease control is considered in a holistic way.

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3 TOP READS:

Veterinary Record

Analysis of bovine viral diarrhoea virus: Biobank and sequence database to support eradication in Scotland

Russell, GC., Grant, DM., Lycett, S., Bachofen, C., Caldow, GL., Burr, PD., Davie, K., Ambrose, N., Gunn, GJ., Zadoks, RN.
April 2017

frontiers in Public Health

Model-Based Policymaking: A Framework to Promote Ethical "Good Practice" in Mathematical Modeling for Public Health Policymaking

Lisa A. Boden and Iain J. McKendrick
April 2017

SCIENTIFIC REPORTS

Vulnerability of the British swine industry to classical swine fever

Thibaud Porphyre, Carla Correia-Gomes, Margo E. Chase-Topping, Kokouvi Gamado, Harriet K. Auty, Ian Hutchinson, Aaron Reeves, George J. Gunn & Mark E. J. Woolhouse
February 2017

MESSAGE FROM THE DIRECTOR
by Prof. Dominic Mellor

EPIC III Conference: 'Coordinated interdisciplinary (scientific) support of livestock outbreak response'.

Our first conference of the 2016-21 programme of EPIC work sees us bringing together a carefully constructed group of topics, presented by a blend of our own and invited people, under an overarching theme of interdisciplinarity.

We're very excited to be hosted in the Scottish Parliament for a reception at the end of the first day of the meeting, which offers a dramatic opportunity for informal interaction for our guests, complementing the more formal conference proceedings.

Scientific posters from EPIC members will be available to read during session breaks and a panel discussion at the end of day 1 invites guests to explore our conference theme.

For the first time, we plan to film

our conference and we look forward to being able to share excerpts for the conference through our newly redesigned website: www.epicscotland.org.

Very important among our many aspirations for this conference is the desire to evaluate our own continuing evolution as a collaborative group of scientists working in support of animal health policy. We seek to achieve this through showcasing some of our own science for critical review by our peers and stakeholders as well as inviting them to offer us presentations and perspectives of their own.

Our ambition is to further develop and sustain an appropriate and agile interdisciplinary culture in our work so as to be best placed to serve the animal health needs of Scotland's livestock enterprises.

Panel discussion Tuesday 16.00h

'Coordinated interdisciplinary (scientific) support of livestock outbreak response'

Open for questions.

twitter: @EpicScotland #EpicScot

email: epic.scotland@sruc.ac.uk

or in person on the day

EPICSCOTLAND.ORG

AMBER TELECONFERENCE ROLE PLAY

with Sheila Voas and Andy Paterson (Tuesday 1315h)

Animal and Plant Health Agency (APHA) operational roles and responsibilities.

At this year's EPIC conference there is a unique opportunity to appreciate some of the challenges and responsibilities faced in the early stages of a suspected outbreak of a notifiable disease, such as foot and mouth disease or avian influenza.

Many notifiable diseases initially present with symptoms that are similar to routine livestock diseases, and there are between one hundred and two hundred reports of suspected notifiable disease every year. These are reported to APHA's Veterinary Exotic Notifiable Diseases Unit (VENDU) and each one is investigated; thankfully the vast majority are negated.

However, for some of these cases, where either the likelihood of the report case being confirmed, or the potential impact, is considered to be very high, the Chief Veterinary Officers will call an Amber Teleconference. This is a decision-making meeting, bringing together all the relevant cogs, in what is a very big machine. Absolute rigour is essential and speed is of the essence - the evidence has to be assessed, actions considered and decisions as to the proportionate response have to be made, often in circumstances where the evidence

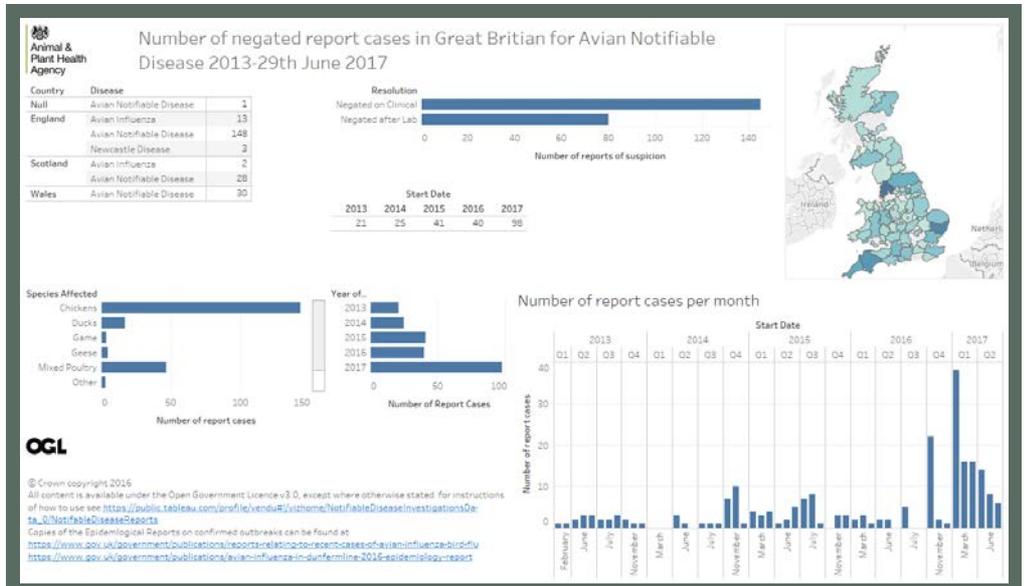base may be incomplete - this is where our role play picks up.

The role play follows a fictitious suspicion of notifiable disease in poultry and aims to share with delegates where science and epidemiology fit in and support the decision making processes. Guiding the audience through the Amber Teleconference will be Scotland's CVO Sheila Voas, alongside Andy Paterson of the National Emergency Epidemiology Group. The role play dramatically concludes with the decision to stay at Amber, or go to Red. Which way will you go?

Amber Teleconference role play roles

- CVO Scotland
- APHA VENDU
- APHA EU/World Reference Laboratory
- APHA – Head of Field Delivery
- Disease Control Policy
- Communications
- Lawyers
- APHA – National Emergency Epidemiology Group
- Food Standards Scotland
- Health Protection Scotland
- International Trade and EU Relations

Veterinary Exotic Notifiable Diseases Unit (VENDU)

VENDU reports the number of Exotic Notifiable Disease investigations carried out by APHA via a public online dashboard. Since 2013 there have been 25 different suspected notifiable diseases investigated. In 2016 there were 216 reports.
The dashboard (right) shows negated report cases for avian notifiable disease in Great Britain.

SUPPORTING THE FIGHT AGAINST AI

The 2016/17 Avian Influenza (AI) season proved challenging for poultry keepers and government. Confirmed cases of Highly Pathogenic AI (HPAI) H5N8 were identified in GB wild birds, backyard poultry, commercially reared birds and game birds. The situation lead to unprecedented measures to limit the spread of disease. Session 3 of Day 1 focuses on EPIC members' contributions to the evidence and knowledge base during recent AI outbreaks.

This session highlights the EPIC project's interdisciplinary credentials. Harriet Auty from Scotland's Rural College (SRUC) will speak on developing rapid Veterinary Risk Assessments and the benefits of embedding the team into Scottish Government's Animal Health & Welfare Division during an outbreak.

Veterinary Epidemiologist Paul Bessell and Mathematical and Statistical Modeller Sam Lycett from The Roslin Institute describe how they combine their expertise and disparate data sets to perform analysis to infer HPAI spread. The analysis complements the work of APHA with a Scottish focus.

During the 2016/17 AI season there were 6 identified cases in English and Welsh small poultry flocks. Lee-Ann Sutherland reveals how this important segment of poultry keepers view biosecurity.

The full report 'Understanding Backyard Poultry Keepers and their Attitudes to Biosecurity: Preliminary Report', is available on the EPIC Website.

PROPORTIONATE RESPONSES

Early and effective interventions are often necessary to successfully prevent and control disease outbreaks. However, there is always a risk that the public will either perceive these efforts as an "over-reaction" or an "under-reaction" depending on the outcome.

Wednesday's first session starts with three fascinating invited speakers sharing their diverse experience on how mathematical modelling supports disease outbreak management. The session will be chaired by Prof. Louise Matthews, a modeler of major livestock and zoonotic diseases at University of Glasgow. Read more about the session's invited speakers overleaf.

In the final session of the conference, EPIC member Kokouvi Gamado will be describing research conducted at Biomathematics and Statistics Scotland (BioSS) on predicting the the scale of epidemics during the early stages of outbreaks when available data are limited. These insights can help inform potential control strategies, such as 'to vaccinate or not?' where decisions impacting effectiveness are time critical.

The work of Alyson Barratt from Scotland's Rural College (SRUC) picks up on the insights and outputs from BioSS early stage outbreak analysis. As an Animal Health Economist, Alyson's research develops cost benefit analysis frameworks and studies farmer decision making to help provide advice to policy makers on the most appropriate response to an outbreak.

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SPEAKER PROFILES

Evonne Curran

Tuesday fr. 11.15h

'Cognitive errors in outbreak decision making'

About: Wide range of infection control experience from 1987 onwards. Writer of the Outbreak Column for the Journal of Infection Prevention Experience in Statistical Process Control Chart usage, local surveillance, outbreaks, coaching and mentoring IPCTs.

Tweet: @EvonneTCurran

'Modelling to support disease outbreak management: Economics'

About: Supporting the decisions farmers and other stakeholders make that promote animal health and welfare. Interdisciplinary research methods that use socio-economic approaches that encompass whole farm and food systems yet integrate with the epidemiology of farm animal disease processes within a decision support framework.

Tweet: @AlistairStott1

Alistair Stott

Wednesday fr. 09.00h

Ellen Brooks-Pollock

Wednesday fr. 09.00h

"Modelling tuberculosis outbreaks at national and local scales'

About: Mathematical modeller interested in Public Health and Epidemiology. Using data of all kinds to develop and fit models at a range of scales, from spatial, individual-based models to probabilistic and compartmental models. Main interests are bovine tuberculosis, human tuberculosis and influenza.

Tweet: @n3113n

'Modelling to support disease outbreak management'

About: Interests: how social behaviour and immunity shape disease transmission, and how knowledge of such processes can enhance surveillance and control measures. Work: emerging infections – such as monkeypox, Ebola and Zika – established infections like seasonal influenza and dengue fever.

Tweet: @AdamJKucharski

Adam Kucharski

Wednesday fr. 09.00h

Gareth Enticott

Wednesday 12.30hh

Conference synopsis

About: Human geography focusing on biosecurity, practices of environmental regulation and governance, and scientific controversies in animal health. Ongoing controversy surrounding bovine Tuberculosis in the UK, as well as the management of the disease in New Zealand. Analysing reforms to the veterinary profession and their effect on disease management, and the migration of veterinary surgeons to and from the UK.

Tweet: @GarethEnticott

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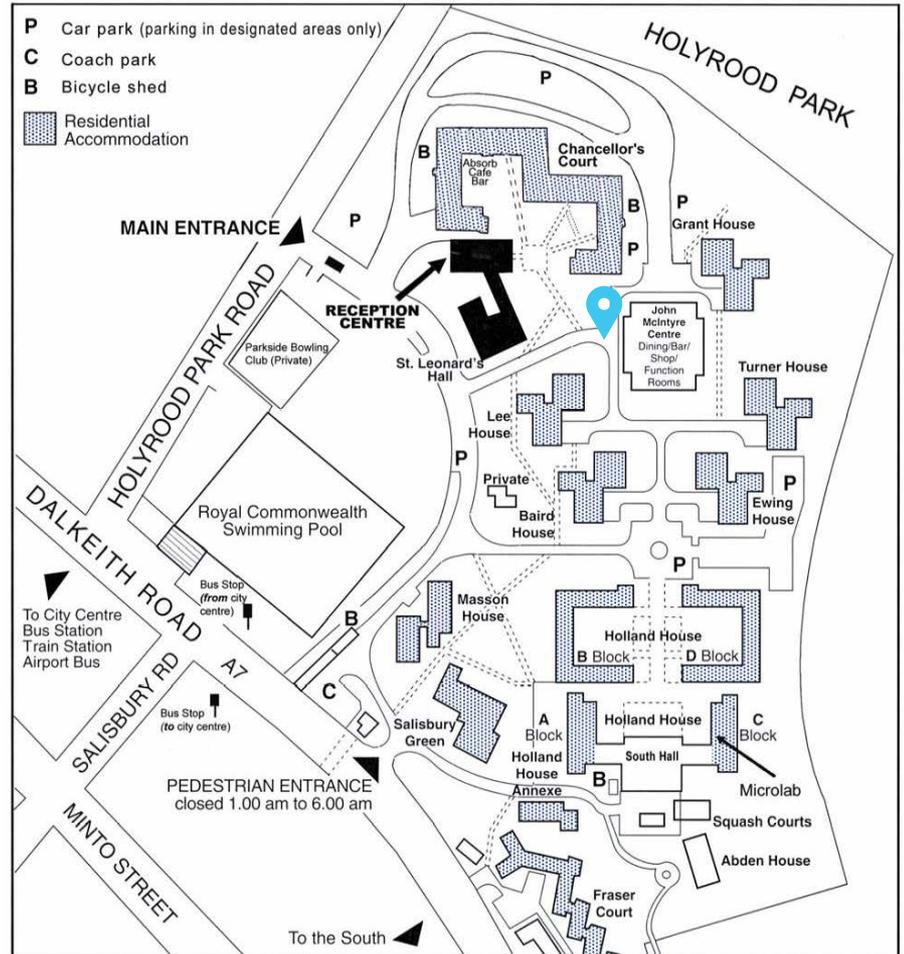Animal Disease Outbreaks

CONFERENCE VENUE

The John McIntyre Conference Centre is located in the Newington area of Edinburgh ~1.2 miles south of the city centre.

In addition to the conference programme EPIC members have been invited to display posters presented at recent scientific meetings and events. The posters will be conveniently located adjacent to the main tea and coffee station. EPIC members will be in attendance to discuss their work.

Following the close of day 1 return transport will be available from JMCC to the evening reception at the Scottish Parliament. The conference dinner will be held in the Preston Room at JMCC. RSVP is required for both the dinner and reception.

Booking of accommodation in Mason House (at own cost) is via EdinburghFirst.co.uk

John McIntyre Conference Centre, EH16 5AY

Scottish Parliament Reception

Hosted by Graeme Dey MSP

Graeme Dey is the SNP MSP for Angus South Constituency. Elected to the Scottish Parliament in 2011, he is currently the Convener of the Parliament's Environment, Climate Change and Land Reform Committee. This follows serving as Depute Convenor of the Rural Affairs, Climate Change and Environment Committee in the last Parliament (2011-2016).

The role of the Committee is to scrutinise the Scottish Government's policies and expenditure in relation to the following matters: environment, land reform, water quality, climate change, national parks, crown estate and marine planning.

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The James Hutton Institute

BioSS

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