FREE WEBINARS

PLF AND SENSING TECHNOLOGIES IN EXTENSIVE GRASSLAND SYSTEMS

Precision Livestock Farming (PLF) techniques and novel sensing technologies are having a major impact on the management of intensive systems to improve efficiency, reduce disease and improve welfare. However, the deployment of technology into extensive grassland and rangeland systems has proved problematical due to issues of equipment and data costs, sensing of activities over a large scale and currently available technology.

PLF WEBINAR – PART 1 Current State of the Art

17 NOVEMBER 17:00 – 18:30 (UK time)

Part 1 will concentrate on the current state of the art with presentations on the use of these technologies in grassland and range systems in Europe, Australasia, Africa and the Americas

Chair

Professor Ilan Halachmi

Prof. Ilan Halachmi. Head of the laboratory for Precision livestock farming (PLF) in the ARO. - The Volcani Centre– Israel. He was raised up in a livestock farm where nowadays he grows horses and lambs (hobby) . BSc and MSc Engineering degrees from The Technion Haifa, Israel. He received his PhD from Wageningen university (the Netherlands). Adjunct professor for computer simulation in Ben-Gurion university. He is the PLF section editor in Animal (https://www.cambridge.org/core/journals/animal) and the president and of the EAAP's (European federation of animal science) PLF study commission. Was WP leader in eight large EU projects abut PLF. Ilan edited the book: Halachmi (2015) 'Precision livestock farming applications; Making sense of sensors to support farm management (Book: http://www.wageningenacademic.com/plfa), over 80 research papers about PLF (http://scholar.google.com/citations?user=PMfuwcIAAAAJ) and 8 PLF patents .

Speakers

Dr Paul Greenwood

Paul Greenwood is a Senior Principal Research Scientist in the Extensive Livestock Unit of New South Wales Department of Primary Industries in Armidale, Australia. He has a joint appointment with CSIRO Agriculture and Food and is an Adjunct Professor at the University of New England in Armidale. Paul trained in Agricultural & Animal Sciences at Sydney University and Cornell University and was a livestock extension officer prior to his research career.

Paul leads collaborative research on grazing efficiency and has worked for many years on regulation of growth and development in ruminants

Smart farming for extensive grazing systems in Australia

This presentation will focus on development of applications for precision livestock farming including sensing for extensive grazing systems in Australia, providing examples of technologies deployable in extensive grazing systems including walk-over-weighing, virtual fencing, pasture assessments, and sensor-determined livestock behaviours. Challenges for uptake and application of such technologies in extensive livestock systems and across product supply or value chains will also be considered.

Dr Claire Morgan-Davies

Claire Morgan-Davies is multidisciplinary scientist with a focus on extensive livestock production, particularly in mountain areas. She graduated from France as an 'Ingénieur en Agriculture' from UniLaSalle Beauvais (1995), followed by a MSc in Land Resource Management at Cranfield University (UK). She then did a PhD (part-time) with the University of Edinburgh (2014) and has been working at the Scotland's Rural College, Hill & Mountain Research Centre, near Crianlarich in Scotland since 1999, focusing on extensive sheep farming systems. Claire is currently leading several European research projects on innovative technologies for small ruminants systems (TechCare, Sm@RT), as well as being partner to several others focusing on technology and sheep systems sustainability (national: SmartSheep; ResULTS; and European: SheepNet, SusSheP, EuroSheep). She is also the Editor of the Livestock Farming Systems - Precision Livestock Farming section in the journal animal: The International Journal of Animal Bioscience since 2019, and is also the Vice-President of the European Federation of Animal Science Precision Livestock Farming Commission.

Precision Livestock Farming in extensive grassland systems in Europe

The presentation will focus on the recent initiatives around the implementation of PLF tools in extensive grassland systems in Europe, and how they can help the challenges faced by sheep farming industry in these environments.

Professor Andrew Dowsey

Professor Dowsey is Director of Research at Bristol Veterinary School (BVS), Chair of Population Health Data Science at the University of Bristol, a Turing Fellow of the Alan Turing Institute for Artificial Intelligence and Data Science, and Associate Director for the Health Data Research UK South-West Partnership. Broadly, his research falls into three areas: (1) Sensing for intensive herd behavioural monitoring in remote communities and at our John Oldacre Centre instrumented farm platform, pioneering integration of inte nsive real-time whole-herd longitudinal monitoring with individual feed, production, waste and veterinary records to progress fundamental research in animal resilience, health and production; (2) Large-scale integration of diverse datasets e.g. welfare auditing and anti-microbial usage/resistance originating in livestock; international development, sustainable food security and health in the rural developing world. (3) Integration of omics data into research and clinical pipelines.

Artificial Intelligence platforms for monitoring ruminant health

The presentation will discuss the latest technologies for identifying, tracking and monitoring individual animals for early detection of health and welfare issues. Artificial Intelligence is key to interpreting this complex longitudinal data

Professor Andrés F. Cibils

Andrés is a Professor of Range Science in the Department of Animal and Range Sciences at New Mexico State University. Andrés and graduate students in his lab study grazing behaviour of rangeland-raised cattle and sheep using animal wearable sensors to understand movement and activity patterns of livestock in relation to environment- and animal-related factors. He currently collaborates closely with colleagues at the USDA-ARS Jornada Experimental Range, the Universidad Autónoma de Chihuahua (México), and the Instituto Nacional de Tecnología Agropecuaria (La Rioja, Argentina) studying grazing behaviour of Criollo cattle on arid and semiarid rangelands of the SW USA, northern Mexico, and NW Argentina. Andrés currently leads a multidisciplinary team of scientists collaborating on a large USDA-NIFA l grant to develop precision livestock systems for ranches of the American SW. Andrés received a BS in Animal Science (Ingeniero Zootecnista) from the U niversidad Nacional de Lomas de Zamora (Argentina) and an MS and PhD in Rangeland Ecosystem Science from Colorado State University. He was a postdoctoral research fellow at The University of Arizona where he studied cattle foraging behaviour.

Precision Livestock Farming on Arid and Semiarid Rangelands: Challenges and Opportunities

The presentation will describe ongoing efforts to develop a PLF system for cattle ranches in the Southwestern United States. I also hope to provide a brief perspective regarding the likely role of PLF technology in extensive livestock systems of Argentina, Mongolia and West Africa.