DATA ANALYTICS AND DIGITAL TOOLS APPLIED TO ANIMAL HUSBANDRY

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Course Registration: https://www.eventbrite.co.uk/e/data-analytics-and-digital-tools-applied-to-animal-husbandry-tickets-1394439499079

Course Description

This intensive short course is designed for advanced graduate students (PhD and MSc) and professionals in animal husbandry and veterinary sciences, including specialties such as genetics and breeding, nutrition, physiology, management, and reproduction—whether in academia or industry. It is particularly relevant for those interested in applying data analytics and modern machine learning techniques to precision livestock management. The course introduces key concepts and methods for applying statistics and machine learning to high-dimensional livestock data, including data from sensors, imaging technologies, and farm management systems. The program combines lectures with hands-on demonstrations using real-world data and practical software tools developed specifically for course participants.

Schedule

Lecture 1: Big Data and Data Science in Livestock
Lecture 2: Multidimensional Regression and Classification
Lecture 3: Machine Learning Techniques
Lecture 4: Cross-validation and Predictive Metrics
Lecture 5: Primer on Image Processing and Analysis
Lecture 6: Precision Livestock Management Applications
Lecture 7: Mining Operational Farm Data
Lecture 8: Planning Research Studies in Animal Sciences

* Each lecture will last approximately 1 hr 30 min and will be primarily expository, supplemented by demonstrations of Python code and practical examples. Concepts and theory will be illustrated through applications in areas such as wearable sensor technology, computer vision, spectroscopy, and genetics/genomics, among others.

Course Fees: Free

Dates & Place: **Tuesday 24th** (**13:00 – 17:00**; Room 15 HSM 00), **Wednesday 25th** (**09:00 – 17:00**; Room 15 HSM 00) and **Thursday 26th** of June 2025 (**09:00 – 12:00**; Room 24 HSM 00), Kate Granger Building – School of Health Sciences, Faculty of Health and Medical Science, Surrey University, 30 Priestley Road, Surrey Research Park, GU2 7XH Guildford.

Contact: Please forward your requests for information to Dr. Christos Dadousis (c.dadousis@surrey.ac.uk)