Contribution ID: **1** Type: **not specified**

Using machine learning to identify animals from drones

Tuesday, 29 January 2019 09:00 (1 hour)

The World Wildlife Fund for Nature (WWF) estimates that up to five species of life on our planet become extinct every day. This astonishing rate of decline has potentially catastrophic consequences, not just for the ecosystems where the species are lost, but also for the world economy and planet as a whole. Indeed, biodiversity loss and consequent ecosystem collapse is commonly listed as one of the 10 foremost dangers facing humanity, and most pressingly in the developing world. There is a fundamental need to routinely monitor animal populations over much of the globe so that conservation strategies can be optimized with such information. The challenge faced to meet this need is considerable. To date most monitoring of animal populations is conducted manually, which is extremely labour-intensive, inherently slow and costly. Building on technological and software innovations in astronomy and machine learning, we have developed a drone plus thermal infrared imaging system and an associated automated detection/identification pipeline that has the potential to provide a cost-effective and efficient way to overcome this challenge. I will describe the current status of the system and our efforts to enable local communities in developing countries with little/no technical background to run routine monitoring and management of animal populations over large and inhospitable areas and thereby tackle global biodiversity loss.

Presenter: Prof. LONGMORE, Steven (Liverpool John Moores University)

Session Classification: Keynote