



Developing a novel UAV (Unmanned Aerial Vehicle) helicopter platform for very high resolution environmental monitoring of catchment processes

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Recent advances in remote sensing and geographic information has led the way for the development of hyperspectral sensors and cloud scanning LIDAR (Light Detection And Ranging). Both these technologies can be used to sense environmental processes and capture detailed spatial information, they are often deployed in ground, aircraft and satellite based systems. Hyperspectral remote sensing, also known as imaging spectroscopy, is a relatively new technology that is currently being investigated by researchers and scientists with regard to the detection and identification of landscapes, terrestrial vegetation, and manmade materials and backgrounds.

There are many applications that could take advantages of hyperspectral remote sensing coupled to detailed surface feature mapping using LIDAR. This embryonic project involves developing the engineering solutions and post processing techniques needed to realise an ultra high resolution helicopter based environmental sensing platform which can fly at lower altitudes than aircraft systems and can be deployed more frequently. We aim to display this new technology platform in this special session (the only one of it's kind in the UK). Initial applications are planned on a range of environmental sensing problems that would benefit from such complex and detailed data. We look forward to being able to display and discuss this initiative with colleagues and any potential interest in future collaborative projects.