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Media Release

Drones set to transform management of rock art sites

High tech drones and state of the art digital technology are set to transform research into ancient indigenous rock art according to the current George Chaloupka Fellow, Dr Ian Moffat.

As part of his fellowship, Dr Moffat, a specialist in applying earth science techniques to archaeology, has been researching the use of a range of new digital technologies and geophysical techniques to study rock art in the Red Lilly Lagoon area of Western Arnhem Land with the assistance of the Njanjma Rangers.

“Despite the importance of rock art sites as cultural heritage and the challenges associated with their management, most rock art studies do not take advantage of new digital technologies that allow the recording and analysis of these sites in innovative ways”, according to Dr Moffat.

The techniques, including 3D photogrammetry, static GPS, total station, magnetic susceptibility and ground penetrating radar, were used to research five sites in detail and to undertake landscape scale investigations of approximately 300 hectares.

Drone based photogrammetry was shown to be an outstanding tool for identifying new areas for rock art survey.

Photogrammetry from ground-based photos was used to make interactive 3D models of four rock art sites. These models facilitate the digital study and dissemination of rock art sites, which has important implications for management of the cultural areas.

They will facilitate public engagement without causing disturbance to sensitive locations and will potentially make visualization of shelters available to visitors at MAGNT in Darwin as well as in other institutions, thereby facilitating a deeper understanding of Indigenous culture.

Australia has a rich body of rock art, which is an important link to the past for both Indigenous and non-Indigenous people. Overall, this research demonstrates the utility of these digital methods and makes a compelling case for their introduction as a standard part of rock art research and management.

According to Dr Moffat, geophysical and geospatial technologies will “transform rock art research”.

Dr Moffat delivered the 2015 George Chaloupka Lecture on Thursday November 26 at MAGNT, Bullocky Point.

For editors:

This Fellowship is an initiative of the Museum and Art Gallery of the Northern Territory Foundation, and has been sponsored by Energy Resources of Australia (ERA) with the aim of supporting research into Indigenous rock art in the West Arnhem land region of the Northern Territory to enhance the understanding and preservation of the art and promote the MAGNT as a major institution in this field

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Ian unloading drone used in aerial photogrammetry with Njanjma Rangers on site at Red Lilly lagoon.



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Njanjma Rangers left to right, Katie Nayinggul, Aniga Nayinggul and Kenneth Mangiru with Dr Ian Moffat at last night's lecture.